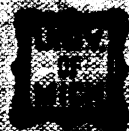
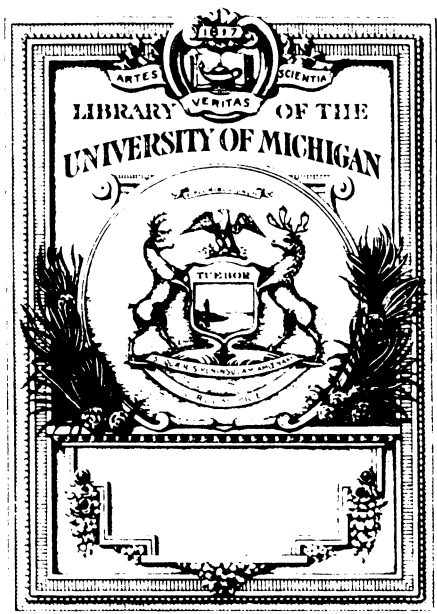


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OF THE
PHILIPPINE HEALTH SERVICE

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

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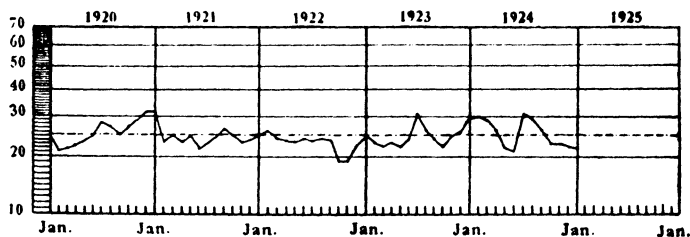
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ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local can effectively prevent or control diseases without knowledge of when, where and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH. CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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VOL. V

JANUARY, 1925

No. 1

THE TUBERCULOSIS PROBLEMS IN THE PHILIPPINES

By Major G. R. CALLENDER

United States Army

I will briefly cover the subject of tuberculosis in the Philippines as it has come to my attention from studies before and since being here. First, there are two types of tuberculosis in the world which may be called epidemiological types. The first, the primary tuberculosis which occurs in non-immune persons never exposed to the disease. It occurs in babies and in those races not exposed to civilization. Civilization in the world today means tuberculosis so far as the expressions are concerned for every civilized community has become exposed to the disease and has a constant incidence indicating that all have been subjected to the influence of the tuberculosis organism. The primary type of tuberculosis is found in the natives who have never been in contact with civilization. It is a rapidly fatal disease taking at the most one or two or three months to kill. It is characterized by glandular enlargements, that is, lymph node enlargements thruout the body and massy growths everywhere without special localization in the lungs. The other type arises in persons who are exposed more gradually during their entire life to small doses of the organism and unless they receive an extra dose in the immunizing period they will have a relatively high degree of immunity to tuberculosis. If later our resistance breaks down or, as some believe, if later they get an enormous infection, they will develop the chronic form of tuberculosis usually in the lungs, which is found all over civilized communities. Those are epidemiological types for the reason that

when one investigates deaths from tuberculosis, upon finding the first type we know the population is not exposed, has not been immunized by receiving the infection, whereas the second type means that tuberculosis is well nigh universal and only occasionally do people fail to obtain an immunity which will protect them for their lives.

With regard to tuberculosis in the Philippines. What is its status? It is already explained in books, but briefly, the Philippines is a tuberculized community as a whole. I have not been able to investigate some people in the mountains or way up in the mountains. As a whole it is tuberculized. How did they get it. First, it has always been in contact with China by means of commerce. China is one of the oldest tuberculized races. Histories or documents from almost prehistoric times indicate its presence there. Second, for four hundred years you had been in contact with the Spanish and with all the other races who have dealt commercially with you. There is where your tuberculization came from. It is the reason that today a country protected and well is not in a safe position to have contact with the outside patients. It is true of every civilized race in the globe. We receive infection from a tuberculized nation, that is, a nation constantly exposed. We receive our infection from the time we have been bound or in contact with them. But at a certain period we receive enough infection to establish immunity. that is, resistance to any further doses of the tuberculosis germ. If in receiving the infection we get so many of the organism that we pass over the threshold of infection too rapidly we get manifest primary tuberculosis and die as children from that type of the disease, otherwise we live on. If in a nation there is a large proportion of bone, joint and glandular tuberculosis, it indicates that whereas primary tuberculosis was not a cause of the death, at the same time the dose was not a little bit too much, and as a result we get that type of tuberculosis which is not overabundant here as compared with the communities that I am familiar in the United States.

With reference to the incidence which has been found in the Islands, there has been much written, but very few figures have ever been produced. Broad, Chamberlain, and others have made statements as to the extreme prevalence of tuberculosis, but the only figures that I have been able to find in a short search are those given by Musgrave and Sison which show in hospital cases 22 per cent of infection in ages running from 10 and up both male and female, the incidence varying somewhat. Their figures also show that a large number of the parents of

the people lived in the same house as the patients and in the generation before had tuberculosis from whom these patients have received somewhat an overdose of the organism. In the army for many years we have watched the discharge rate in Scout troops. This has constantly run about twice the discharge rate of tuberculous that we have in white troops here or in the United States. That is, the man from 20 to 40 years there is twice as much tuberculosis as shown by the activity and discharge rates as we find in the American troops.

Now, as to death rates. Death rates have diminished from tuberculosis here more or less coincident with the improvement of sanitation which has occurred within the last two or three decades, but still remains nearly twice as high as in cities of comparatively equal population in the United States, for instance. In going over as surveyors we find these figures borne out from two to three times as much tuberculosis in the Filipino troops as in our American troops living here under similar conditions so far as exposure to infection is concerned. That agrees with the death rates and with the discharge rates in the army for the cause of tuberculosis and indicates to you approximately the comparative amount of tuberculosis in males in the second, third, fourth, and fifth decades of life.

I am unable to give you any figures on children as I have not been able so far to examine them, but I will expect to find that children begin receiving their infection immediately after birth, receiving increasing amount as they begin to walk around and are no longer breast-fed, and childhood period would be ready then, when he goes to school and mix up with a larger number of the population until, I believe, you will find that 20 years is about the time when the civilized communities in the Philippines are infected with the organism and unless they develop manifest disease, are in all probabilities protected unless some untoward influence arises. It is one of the highest if not the highest rate. There are more deaths during the years when there are no epidemics here, as cholera. I believe there are more deaths here from tuberculosis than from any one single cause, and the disease is so common that health officers are liable to think that there is nothing they can do. More can be done in saving numbers of people by intelligent handling of the tuberculosis problem than any other way, with the exception of the prevention of epidemics as typhoid, cholera, etc. Now, the infection with the tubercular bacillus in the glands, lymph nodes or other places which does not manifest itself as disease is the way you are constantly protected from tuberculosis as a manifest disease or

from receiving additional infection when you come in contact with it. That is proven from the German works back in the early days and I will not bother you with it.

Now, to what this high incidence is due? If the Philippines is as well tuberculized as the United States, why should they have two or three times of active tuberculosis and a higher death rate? I believe it to be due to the fact that you have proceeded in a relatively short period of time in the spread of the work that you are doing in eradicating preventable diseases from these Islands. Your decrease in rate have been due to your improvements in sanitation and in the general welfare of the people. The infection, however, is due to local crowding for one thing—too many people under one roof, too many houses in small area is one of the ways—so that when a person with active tuberculosis gets in that house the children who have not yet received their immunizing dose get an overdose and, therefore, later, if not then, develop a manifest form of tuberculosis. Second, failures. That is one of the things you must combat—the idea that safety lies in keeping the air out. Third, spitting—expectoration. It is a universal habit and a good deal has been said about it. In this or before a good deal has been written about it, and I want it to be emphasized. In going to the corner of Calle Dakota near the Bureau of Science one morning at about 7.15, I counted 75 fresh expectorations on the concrete sidewalk. Now, that is not the provincial people who are doing that; it is the student class of Manila, and there is no reason in my mind why those people should not know better and realize what it means to spit on the sidewalk. The father and mother get it on their feet; they walk into the house, tread on the floor, and you know what happens in the house when a baby gets it into its mouth. Similarly, spitting in the house—that is a source of infection. I have already mentioned that the source of most danger is the person with active tuberculosis in the family where children are. There is a good deal of evidence to show that all of us who have been tuberculized more or less all the time excrete tubercular bacilli, whether we have any lesions which are manifest or not, and from that kind of excretion alone the whole islands would have been depopulated from the infection of tuberculosis. The person with active tuberculosis in the house with a baby up to the fifth or sixth year is the one you will give either primary doses or possibly such a dose that they completely recover, and if infection is too great they will have a manifest tuberculosis which we find in the adults of the population. A great deal of emphasis has been laid on the low

caloric value of the diet which is used by the majority of the people of the Philippines. They may have something to do with it. The fact that it is low in vitamins as well as in calories probably has fully as much to do with it. We find that in animals the immune bodies will be produced just as well after the animal is fed on a diet without vitamins, but they will be infected much more easily and the infection will pursue a much more rapid and virulent course. Those are the things I am unable to prove to you but they are suggestive. They bring us to the question as to the methods to be used in lowering the death rate of tuberculosis. For the patients themselves it is a question of a certain amount of rest, but good food and fresh air are much more important. There are several cases which have come to my personal observation, persons who have had activity from time to time,—two weeks in Baguio perhaps, a week in Antipolo, some places where there is little difference in climate, may be only a few weeks, may be a few months, and in many instances they will never have to return. In other words, the Filipino apparently is more resistant to the advanced infection of tuberculosis than is the American with whom I come in contact. He has more infection because he is more exposed and he combats and throws into the background a margin which would kill an American in a very short time. Some exercise is valuable unless a patient is running a temperature. That is for the reason that it stirs up the focus a little and ought to inoculate the man again to combat his disease. Now, one of the most important things to combat this condition is to better your general sanitation. When the typhoid and dysentery and malaria rate goes down, tuberculosis goes down too for these other diseases reduce some of the vitality from the organism and is more liable to have an infection already present, get the best of him, whereas if there is no malaria, dysentery, etc., he is able to keep into the background.

I went to find just a few figures from the French experience in the tropical colonies in Kayan in South America. The death per thousand deaths is 472 for malaria, 81 for dysentery, 27 for typhoid, 62 for tuberculosis. They moved their colony to New Caledonia. There is no malaria and their dysentery jumps from 81 in Kayan to 272 in New Caledonia, 27 typhoid in Kayan to 107 in New Caledonia. To you, that just means one thing. The water supply would wrack the wall. Tuberculosis jumped from 62 to 110, almost double, yet there is no tuberculosis in New Caledonia. The climate was excellent, not too hot, just comfortable all the year around, plenty of breezes nothing like

the temperature we are having today here, and the natives before the advent of the colony had no tuberculosis and lived on more or less indefinitely. The dysentery went up and tuberculosis with it. You stop your typhoid fever; you cut down your dysentery; you keep out cholera; you will the malaria mosquitos and you will do more to lessen the mortality and morbidity of tuberculosis than any other way.

What worth-while results can be accomplished in tuberculosis, for example, unless conditions affecting the spread of all the communicable diseases that lower the vitality and render the individual an easy victim to tuberculosis are controlled? Safe milk and water supplies must be assured. Satisfactory methods of sewage disposal must be installed. Infants must be properly reared. Personal and school hygiene must be taught and observed. Medical examinations of school children must be made and defects and abnormalities corrected. In short, the control of tuberculosis is not a problem by itself but depends on all the varying activities that go to make up a well-balanced public health department.—W. F. DRAPER, *Assistant Surgeon General, United States Public Health Service, Public Health Reports, November 16, 1923.*

PLAN OF ACTIVITIES OF THE PHILIPPINE ISLANDS ANTITUBERCULOSIS SOCIETY

By Dr. CARMELO PEÑAFLORES

Executive Secretary, P. I. Antituberculosis Society

THE PROBLEM

First. The annual death rate from tuberculosis in the Philippines, as taken from figures reported by the Director of Health for the year 1920, is about 297 per 100,000 population (the total number of deaths was 29,752).

Second. A study of the death rate curve based on figures accumulated during a period of 15 years discloses the fact that tuberculosis mortality in the Philippines is increasing rather than decreasing. According to the report published by passed assistant surgeon, L. R. Thompson, of the United States Public Health Service, tuberculosis causes 17.6 per cent of the total deaths in Manila and 11 per cent in the provinces. The report further gives figures proving that the death rate from tuberculosis has not followed the decreased death rate from cholera, plague, infantile convulsion, etc. In fact, it has practically remained the same for the past 15 years.

Third. A conservative estimate of the total number of deaths reported places the living and active cases of tuberculosis in the Philippines at half million. These figures are in themselves too eloquent to need any further comment. Their tremendous significance becomes however more striking when we consider them in terms of economic, social, and national loss to the country.

CAUSES

As elsewhere the spread of the disease in the Islands is caused by several physical, climatic, social, economic, and industrial factors, but by far the most prevalent and therefore the most outstanding of them all is the lack of proper hygienic education among the great masses of our population.

A great proportion of our people do not know the origin, causes, and means of spreading of the disease. If some of them ever do, they do not in the least feel concerned.

A great proportion of our people have not been taught to believe in the possibilities of contagion nor in the infectiousness of the disease.

A great proportion of our people are ignorant of the prevention of the disease.

A great proportion of our people have not been taught to realize the dangers of overcrowding in sleeping quarters.

A great proportion of our people have not been taught of the importance of a well-balanced diet and regularity in eating.

If it were not for these factors, I do not see why the disease should become at all prevalent in the Philippines where Nature has lavished abundant sunshine, fresh and sultry air and where the houses are so constructed as to insure continuous and sufficient ventilation.

WHAT IS BEING DONE

Now that we are acquainted with the extent and the causes of the problem that brought into existence the Antituberculosis Society, it would be worth our while to know what are the efforts being put forth against the ravages of the disease. The Government of the Islands, through its Department of Health, is maintaining 150 beds for advanced cases in the City of Manila, 50 beds for incipient cases in Baguio, and a little less than that number in Cuyo. The Philippine Islands Antituberculosis Society, a semi-public institution, maintains a Tuberculosis Colony consisting of 20 two-bed cottages for incipient cases and 2 forty-bed infirmaries for advanced cases. It also maintains and operates one public dispensary in Manila. These, so far as we know, are the only facilities with which we are trying to cope with the menacing problem of tuberculosis in the Philippines.

No attempt is being made to train physicians thoroughly in methods of early diagnosis of tuberculosis. No effort is being exerted to enforce the existing regulations regarding promiscuous spitting and reporting of cases. No efforts are being used to establish the necessary laboratory facilities for the purpose of spreading knowledge of and promoting research in tuberculosis. From these facts it is very evident that the facilities for combating tuberculosis now existing in the Islands are far from being sufficient, particularly if we consider the present seriousness and extent of the disease. Those of you who are interested in the campaign against tuberculosis will surely feel with me that some constructive measures are imperative and must be introduced at once if we must curtail tuberculosis mortality.

PLAN OF FUTURE ACTIVITIES

Right after our return from the United States where we had been studying the tuberculosis problem and the modern methods employed in its solution, we formulated a plan which can be

described as a combined plan between the Philippine Health Service and the Antituberculosis Society. We held and we are still holding the conviction that the ultimate eradication of the disease depends exclusively upon the combined efforts of the government and the private institution we are representing. Following this conviction, we prepared a plan and submitted it to the Fifth Philippine Legislature in the form of a bill.

In short, in the plan, we recommended that the Government (1) establish sufficient sanatoria with the required number of beds for incipient cases; (2) that it establish adequate hospital facilities with sufficient number of beds for advanced cases; (3) that it establish and operate a sufficient number of public clinics to help in the detection of cases in their early stages; (4) that it introduce in the medical curriculum of the two universities now existing in the Islands more adequate facilities for the thorough training of medical students and physicians to enable them to cope successfully with the tuberculosis problem; (5) that it enforce strictly anti-spitting regulations as well as laws prescribing the reporting of cases of tuberculosis; and (6) that it enact such other laws and promulgate such other regulations as may help in the eradication of the disease.

The Antituberculosis Society, on the other hand, in coöperation with the Government, is planning (1) to establish sufficient number of agencies or institutions to take proper care of tuberculous cases in their respective territories; (2) to direct its activities more towards prevention than towards relief and actual treatment of cases; (3) to conduct an intensive and extensive educational campaign by means of traveling clinics, exhibitions, contests, posters, publications, etc.; (4) to promote research and investigation work; and (5) to coördinate and correlate the activities of all civic, welfare and relief organizations with a view to unifying scattered efforts against the tuberculosis problem.

This joint plan unfortunately has been subject to repeated procrastination for no other reason than the "ready-made" excuse of lack of funds. The Philippine Legislature will not appropriate any sum and the private organizations are reluctant to give their financial assistance unless they are shown previously, facts and figures demonstrating the good results of such a campaign. It occurs to us therefore, under these circumstances, that the only practical way of making the people and the government see actual and tangible results in a short period of time is to conduct a demonstration work similar to that conducted in Framingham, Mass., where the success of the experi-

ment showed it to be a most effective means of winning public sympathy and therefore of raising funds. Other states of the United States also obtained similar results and our experiences in New Mexico was that demonstration work served to arouse the interest of the New Mexican community where as a result every citizen, every organization, and every government institution tried to help push on the work that was being carried out. Demonstration work therefore is the short cut to successful health enterprises, for it has the power of attracting attention towards the most difficult phase of every big problem—the starting period, and of arousing more readily and permanently the interest of a big community.

A demonstration work in the Philippines will produce the same result it has done in the United States. Human nature is the same everywhere. Health demonstration within a selected area, patterned, organized and conducted under the same plan as that of Framingham, will undoubtedly accomplish more in the way of arousing the interest of the people and the Government in the tuberculosis problem. It is indeed a disgraceful indictment to our civilization to have only about 250 beds available both in public and private institutions for the care of over half million Filipino consumptives. Unlimited field for investigation regarding tuberculosis is wanting development and is left untouched. It must always be remembered that we register about 30,000 unnecessary deaths from tuberculosis. It must likewise be remembered that this big sacrifice of human lives represents for the country an annual economic loss of about ₱30,000,000. The problem therefore requires and demands immediate consideration. The Philippine Government and the Filipino people must realize that the problem of tuberculosis in the Islands is one that does not admit of procrastination. To delay its solution will only mean more and more thousands of avoidable deaths.

Money must not be spared when matters of public health and welfare are concerned. The Government is prompt to expend millions of pesos for the treatment of leprosy patients, a great number of which are dying, not of leprosy but of tuberculosis. If our herd of carabaos is visited by an acute epizootic disease, such as the well-known “rinderpest” for example, of which hundreds of the animals die and of which few or no people may die, everybody is up in arms; while tuberculosis, a far more prevalent disease demanding thousands of useful human lives every year has been treated well nigh with indifference. Shall we let it be said that in the Philippines we take more pains to protect the life of our carabaos than that of 30,000 Filipinos?

TUBERCULOSIS PROBLEMS IN THE PHILIPPINES

By **Dr. JUAN S. FERNANDO**

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[Abstracts from a paper read before the Annual Joint Convention of the Manila Medical Society and the Philippine Islands Medical Association, on December 17, 1924.]

For the present I have selected tuberculosis from our list of the causes of deaths as it appealed to me most for various reasons,—firstly because in working over the vital statistics in any of our communities, tuberculosis occupies a considerable place in our total deaths; the same thing is true in the number of cases one meets in private practice and the number of tuberculous patients rejected from the general hospitals. Secondly, having had the opportunity of actually treating patients and seeing them get well in the United States and Canada, I feel that the same conduct of treatment could be applied here and the same beneficial results expected.

In submitting these facts for consideration, I have gathered the latest statistics in the United States and elsewhere and incorporated ours for the sake of comparison. I have in most instances limited my work to tuberculosis of the lungs only as Brown estimated that pulmonary tuberculosis “accounts for 87 per cent of all deaths from tuberculosis in the United States,” and this will seem to be about the same proportion here in the Philippines.

TUBERCULOSIS OF THE PHILIPPINES AS COMPARED WITH THE UNITED STATES

It will be seen that in the Philippines there was a death rate of 185.7 for 1904 and 237.5 in 1922 whereas in the United States a steady decrease is noted from 195.2 in 1900 to only 94.2 in 1921, or more than a 50 per cent reduction. On the other hand in the Philippines the figures are gradually getting higher. I must again explain that I am comparing all deaths from tuberculosis in the United States with only tuberculosis of the lungs and still the difference is too great. Another feature of these figures worth observing is the great proportion of deaths in 1918 for the Philippines and to a slight degree in the United States for the same year. It will be recalled that this was the year when the influenza or the “Flu” was pandemic in the Philippines and our experience seems to be identical with that of the United States. Our peak, however, is so much

higher and even for 1919 the death rate was extraordinarily high.

Death rate per 100,000—tuberculosis—lungs only, Philippine Islands from 1904 to 1922, inclusive, as compared with death rate per 100,000—tuberculosis—all forms, Original Registration States and District of Columbia, 1900 to 1921.

Year	Death rate per 100,000		Year	Death rate per 100,000	
	U. S.	P. I.		U. S.	P. I.
1900.....	196.2		1912.....	149.8	233.8
1901.....	189.8		1913.....	148.7	213.8
1902.....	174.1		1914.....	148.6	222.6
1903.....	177.1		1915.....	146.7	223.8
1904.....	188.5	185.7	1916.....	143.8	230.3
1905.....	180.9	201.0	1917.....	147.1	248.8
1906.....	177.8	184.9	1918.....	151.0	315.9
1907.....	175.6	190.0	1919.....	124.9	277.5
1908.....	169.4	220.5	1920.....	112.0	240.5
1909.....	164.3	220.6	1921.....	94.2	236.1
1910.....	164.7	230.2	1922.....		237.7
1911.....	159.0	241.2			

TUBERCULOSIS IN CITIES

We have shown the tuberculosis problem in two countries where both rural and urban districts were included in the total computation. It is another admitted fact that in cities where there are more or less congestion of population the death rate is considerably higher than in rural districts. This second table gives the death rate per 100,000 population in the most important cities of the world and I have included our large cities of the Philippines like Manila, Cebu, Iloilo, and Zamboanga. Again the table is self-explanatory and it will be noted that New York City had the lowest death rate,—89 for pulmonary tuberculosis, 14 for tuberculosis of other organs, making a total of 103 per 100,000 population for tuberculosis of all forms. The records for Manila are for residents only and we had 459.7 of pulmonary tuberculosis, 47.3 of other forms, making a total of 507 for our largest city in the Philippines. This is five times higher than New York City.

Tuberculosis death rate per 100,000 population in principal European cities and New York as compared with Manila, Cebu, Iloilo, and Zamboanga during the year 1921

City	Pulmonary	Other forms	All forms	City	Pulmonary	Other forms	All forms
New York.....	89	14	103	Manchester.....	132	35	167
Birmingham.....	97	16	113	Cologne.....	147	32	179
Bradford.....	92	25	117	Bremen.....	141	38	179
Amsterdam.....	99	27	126	Milan.....	146	52	189
London.....	107	21	128	Vienna.....	211	71	282
Hamburg.....	111	21	132	Paris.....	244	42	286
Brussels.....	121	19	140	Rouen.....	274	62	336
Glasgow.....	105	40	145	Budapest.....	318	57	375
Dresden.....	131	19	150	Zamboanga.....	243	45	288
Munich.....	132	22	154	Iloilo.....	316	18	334
Liverpool.....	128	36	164	Cebu.....	379.9		379.9
Stockholm.....	138	28	166	Manila.....	459.7	47.3	507

TUBERCULOSIS PROBLEM IN BULACAN PROVINCE

In this work I have decided to go as far back as 1918. Although we will all recall the great number of deaths due to influenza at the time and the common experience of having our tuberculous patients dying of so called "Flu," yet it will be noted that the deaths from tuberculosis of the lungs are not so high for 1918 as compared with the subsequent years. Table "A" indicates deaths from tuberculosis of the lungs only (tuberculosis of other organs expected), gathered from the 23 municipalities of this province by quarters and by years from 1918 to 1922, inclusive, and it will be seen that the figures are pretty uniform with some eleven hundred (1,100) deaths each year for the entire province as an average.

TABLE A.—Deaths by year and by municipalities in the Province of Bulacan (1918–1922)

Municipalities	1918	1919	1920	1921	1922	Total	Average
Angat.....	47	36	45	37	35	200	40
Baliuag.....	76	92	59	61	83	371	74
Bigaa.....	46	50	47	53	34	230	46
Bocaue.....	38	49	45	38	40	210	42
Bulacan.....	99	80	71	73	96	419	84
Bustos.....	82	24	32	31	21	140	28
Calumpit.....	72	69	61	68	61	331	66
Guiguinto.....	33	27	25	36	32	153	31
Hagonoy.....	107	109	90	106	85	497	99
Malolos.....	120	118	136	150	132	656	131
Marilao.....	7	21	16	14	25	83	17
Meycauayan.....	42	40	69	85	65	301	60
Norzagaray.....	17	18	23	33	22	113	23
Obando.....	46	56	41	53	33	229	46
Paombong.....	53	40	36	45	49	223	45
Polo.....	42	39	47	41	45	214	43
Pulilan.....	30	36	38	36	35	175	35
Quingua.....	22	31	22	46	41	162	32
San Ildefonso.....	30	17	36	19	28	130	26
San Jose.....	17	11	9	12	12	61	12
Santa Maria.....	43	59	38	42	26	208	42
San Miguel.....	70	68	57	53	68	316	63
San Rafael.....	24	37	30	39	33	163	33
Grand total.....	1,113	1,127	1,073	1,171	1,101	5,585	1,118

In table "B" I have added together deaths from pulmonary tuberculosis by years and by quarters and have a total of 1,369, 1,291, 1,424, and 1,501 for the 1st, 2nd, 3rd, and 4th quarters, respectively, for the last five years (1918–1922). These figures show that during the second quarter of the year or the months of April, May, and June, we have the least number of deaths from pulmonary tuberculosis in Bulacan Province. I once thought that during the hot season most consumptives suffer terribly from the effect of heat but the fact seems to be that they die during the later or cooler half of the year. I shall not offer any reason for this but it is worth remembering in making a prognosis in a given case of chronic pulmonary tuberculosis that more die during the wet season than during

the dry season. It is possible that during the hot season they have been so weakened that when the wet season comes they soon die.

TABLE B.—Deaths by quarters and by years from pulmonary tuberculosis, (1918–1922)

Year	Quarter				Total
	First	Second	Third	Fourth	
1918.....	224	206	260	428	1,118
1919.....	282	259	319	267	1,127
1920.....	275	258	266	274	1,073
1921.....	308	297	287	279	1,171
1922.....	280	271	292	258	1,101
Total.....	1,369	1,291	1,424	1,501	5,585

TABLE C.—Deaths from pulmonay tuberculosis by months for the year 1923

Municipalities	January	February	March	April	May	June	July
Angat.....	2	5	2	4	6	10	5
Baliuag.....	4	2	7	5	6	6	4
Bigaa.....	6	3	6	5	3	2	2
Bocaue.....	5	2	3	4	3	4	5
Bulacan.....	1	1	5	6	6	3	5
Bustos.....	0	2	5	3	1	1	2
Calumpit.....	6	4	5	4	4	6	2
Guiguinto.....	2	0	0	0	2	2	6
Hagonoy.....	7	2	10	10	9	6	8
Malolos.....	12	10	15	7	13	10	13
Marilao.....	2	1	0	1	0	1	1
Meycauayan.....	3	1	4	4	4	3	6
Norzagaray.....	1	1	1	4	0	0	6
Obando.....	5	2	2	4	4	4	9
Paombong.....	3	1	3	5	2	3	4
Polo.....	6	3	1	3	3	3	4
Pullilan.....	3	6	5	5	1	6	1
Quingua.....	1	2	4	1	0	3	6
San Ildefonso.....	0	2	4	4	2	3	5
San Jose.....	1	1	2	1	0	2	0
Santa Maria.....	2	2	4	2	3	7	1
San Miguel.....	2	3	3	10	5	7	3
San Rafael.....	2	0	2	1	1	3	6
Grand total.....	76	56	93	93	78	98	104

Municipalities	August	September	October	November	December	Total
Angat.....	1	1	1	2	8	48
Baliuag.....	10	3	3	3	5	58
Bigaa.....	5	5	2	2	6	47
Bocaue.....	4	5	7	6	4	52
Bulacan.....	4	6	6	5	6	54
Bustos.....	6	3	3	2	3	31
Calumpit.....	4	4	5	7	5	56
Guiguinto.....	5	4	1	2	0	24
Hagonoy.....	13	6	11	10	13	108
Malolos.....	5	11	16	12	8	142
Marilao.....	2	1	2	5	2	18
Meycauayan.....	4	4	5	5	10	53
Norzagaray.....	7	2	1	4	2	29
Obando.....	3	6	7	7	6	59
Paombong.....	3	3	0	3	3	33
Polo.....	5	2	4	2	6	42
Pullilan.....	5	6	4	6	3	51
Quingua.....	4	4	2	4	1	32
San Ildefonso.....	3	2	0	1	2	28
San Jose.....	0	1	0	6	0	14
Santa Maria.....	6	2	5	7	2	43
San Miguel.....	4	5	9	4	5	60
San Rafael.....	3	4	3	7	6	38
Grand total.....	106	90	98	118	110	1,120

As our quarterly report has been changed to monthly report from the first of January, 1923, I have compiled the deaths by months for this year as seen in Table D. The conclusion we have arrived at the previous five years seem to be also supported by this table. February has the lowest number of deaths while November has the highest. It is a common observation and I feel sure most people will agree with me that the month of February is the healthiest month of the year around Manila. To this end it seems that the Carnival authorities have selected this date to celebrate in Manila this annual festivity. It would be interesting to have this chart incorporated with the temperature and barometric pressure in and about Manila,—the reading for February would seem to indicate an ideal climate in this locality for our consumptives.

COMPUTATION OF FIGURES

In this last Table D, I have taken the estimated population of each municipality of the province and the total deaths for the year 1923 and the death rate per 100,000 population is secured. I have found that the municipality of San Ildefonso has the lowest deaths rate from pulmonary tuberculosis or 280.01 and Obando has the highest with 775.09 per 100,000 population. Compared with New York City our lowest deaths rate is almost three times higher while our highest is seven times.

TABLE D.—Deaths and death rates from tuberculosis of the lungs per 100,000 population by municipalities of the Province of Bulacan for the year 1923 as compared with the average deaths and death rates for the last five years (1918–1922)

Municipality	Estimated population as of July 1, 1923	1923		Average population for the past 5 years	Average deaths for the past 5 years (1918–22)	
		Number of deaths	Rates per 100,000 population		Number of deaths	Rates per 100,000 population
Angat.....	8,706	48	551.34	8,447	40	473.54
Baliuag.....	19,106	58	303.59	18,737	74	394.94
Bigaa.....	10,387	47	452.49	10,042	46	458.08
Bocause.....	8,869	52	586.31	8,808	42	476.84
Bulacan.....	10,419	54	518.29	10,419	84	806.22
Bustos.....	6,856	31	452.16	6,856	28	408.40
Calumpit.....	14,664	56	381.89	14,549	66	453.64
Guiguinto.....	5,108	24	469.85	4,990	31	622.49
Hagonoy.....	22,900	108	471.18	22,629	99	437.49
Malolos.....	26,444	142	536.98	26,444	131	495.39
Marilao.....	4,421	18	407.15	4,289	17	396.36
Meycauayan.....	11,618	53	456.19	11,345	60	528.86
Noragayay.....	7,411	29	390.90	7,016	23	327.82
Obando.....	7,612	59	775.09	7,612	46	604.31
Paombong.....	9,383	33	351.70	9,256	45	486.17
Polo.....	9,654	42	435.05	9,437	43	454.59
Pulilan.....	10,198	51	500.09	10,117	35	345.95
Quingua.....	8,494	32	376.73	8,305	32	385.81
San Ildefonso.....	9,999	28	280.01	9,108	26	285.46
San Jose.....	3,631	14	385.57	3,256	12	368.55
Santa Maria.....	12,556	43	342.47	12,295	42	341.60
San Miguel.....	19,065	60	314.71	18,453	63	341.41
San Rafael.....	8,554	38	444.25	8,282	33	398.45
Difference.....	800			137		
Total.....	255,254	1,120	438.78	250,545	1,118	446.23

* Average per 100,000 population.

Then for the last five years, I have taken the average number of deaths by municipalities for the period in question as well as the average population and I have found that again San Ildefonso is the lowest with 285.46 and Bulacan is the highest with 806.22, which happens to be my home town. Taking the province as a whole we have 438.78 for our death rate per 100,000 population in Bulacan for the year 1923 as compared with 446.23 for the last five years (1918-1922), thereby showing a slight reduction.

THE AGE GROUPS

Having now realized the seriousness of the problem due to the great number of people of the Philippines dying of tuberculosis, I shall now touch a very important point that should be of more than a passing interest to all of us. The disease I have selected for my article is a more serious social problem than any of the diseases of children as it undermines the vital forces of a nation. Those who die of tuberculosis are the adult portion of the population who are the bread-earners in a family. Taking away all sentimentalities, how much does it matter to us to have a few months' old child die of congenital debility, malnutrition, or entero-colitis, as compared with a young man just beginning his bright career in his chosen profession or trade, to be suddenly attacked with tuberculosis and after few months or years of illness have it terminate fatally? Certainly the material loss to the family, the community, and the nation at large is much greater. We have witnessed time and again examples of this nature, a man leaving the poor widow to look after her children and to pay the debts incurred during her husband's prolonged illness. The question is oftentimes dramatic and is indeed a social problem of paramount importance. On the other hand what a great economical loss to all concerned to have a child brought up, raised and educated, only to die of pulmonary tuberculosis, say at the age of thirty! I have taken the age groups of persons dying of tuberculosis of all forms during the year 1918 which are as follows:

TUBERCULOSIS (ALL FORMS) IN THE PHILIPPINE ISLANDS IN 1918

Distribution by age groups	Number of deaths
Under 30 days.....	26
30 days to under 1 year.....	209
1 year to under 2 years.....	169
2 years to 4 years.....	445
5 years to 9 years.....	479
10 years to 14 years.....	371
15 years to 19 years.....	1,247

TUBERCULOSIS (ALL FORMS) IN THE PHILIPPINE ISLANDS IN 1918—continued.

Distribution by age groups	Number of deaths
20 years to 29 years.....	5,274
30 years to 39 years.....	5,931
40 years to 49 years.....	6,056
50 years to 59 years.....	5,004
60 years to 69 years.....	3,920
70 years and over.....	2,747
Unknown	12
Total	31,890

It will be seen, therefore, that from fifteenth years the number of deaths increase rather abruptly until it reaches the greatest number between the ages of 40 to 49, the time of the greatest usefulness to both man and woman in our life time.

THE QUESTION OF SEX

In considering tuberculosis from the social point of view, sex deserves some attention but not as much as the age group just discussed. From the social and standpoint as well as from the economical it is as serious for either the husband or the wife to be sick. Experience indicates that the cases and deaths among the two sexes are about even. In Manila during the year 1921 there was a total of 1,359 deaths from tuberculosis of all forms, residents only. Of these 740 were males and 619 were females making 54.45 per cent males and 45.54 per cent females. In the preceeding year (1920), the grand total for the deaths from pulmonary tuberculosis was 1,419 for residents only out of which there were 761 males and 658 females. This gives a proportion of 53.6 per cent of males and 46.3 per cent females.

SOLUTION OF THE PROBLEM

Nicoll in making a passing remark on the control of tuberculosis said:

The control of tuberculosis, for which no specific preventive or cure has yet been discovered, requires practically the complete armamentarium of the public health official—vital statistics, sanitation of the household, ventilation, prevention of contact infection, and in certain cases isolation of infected persons, the hygiene of infancy and childhood, industrial hygiene, and last but not least, public health education.

In line with this program, I have presented the facts in the form of vital statistics gathered chiefly from American sources where great strides have been made along the line of sanitation and public health based, of course, upon the application of the principles of bacteriology and the fundamentals of therapeutics

in the light of our present knowledge. Dublin has made an inspiring presentation of the successful reduction of the tuberculosis death rate in the United States from 224.6 per 100,000 population in 1911 to only 97.7 in 1921. According to his forecast the outlook for the future is as follows:

My best judgment is, therefore, without making an attempt at finality or to involve myself in any hairsplitting mathematical speculation to compromise on the two estimates, that is, to assume a figure midway between 7 and 88. That gives a rate which, I believe, is much more probable than either, namely, about 50 per 100,000 for the year 1930.

Having thus presented the facts and problem in the Philippines as compared with those of other countries, especially the United States, it seems that we have nothing more to do than follow their procedure in this great accomplishment and it is best to start at the very bottom and see what we have for our armamentarium to combat this dreadful disease. I shall leave, however, this side of the question for later development in this paper and go back to the United States and see for ourselves how this monumental piece of health work has been accomplished.

In the first place, most health department are so organized that the tuberculosis problem is handled by one important division in the organization and I shall for the present only mention both New York City and New York State which save the most up-to-date institution. New York States, for example, has the following departments:

NEW YORK STATE DEPARTMENT OF HEALTH

1. COMMISSIONER.
2. DEPUTY COMMISSIONER.
3. Secretary.
4. Executive Clerk.
5. Division of Sanitation.
6. Division of Laboratories and Research.
7. Division of Vital Statistics.
8. Division of Communicable Diseases.
9. Division of Maternity, Infancy, and Child Hygiene.
10. *Division of Tuberculosis.*
11. Division of Venereal Disease.
12. Division of Public Health Nursing.

In this connection I have to quote the health slogan fathered by one of the greatest health officers that ever lived, Doctor Hermann M. Biggs:

Public Health is Purchasable. Within Natural Limitations Any Community Can Determine Its Own Death Rate.

In this particular instance, therefore, it will be interesting to know that in a recent survey made in the United States, "twenty-three cities report a definite budgetary allotment for tuberculosis averaging 4.4 cents per capita."

SOME SUGGESTIONS

I have looked up the problem from the point of view of mortality alone, in other words, I have omitted the cases or morbidity. Opinion varies as to how many cases there are approximately to every death from tuberculosis. Some believe that there are at least five cases to every single death and some statisticians count as much as ten. The fact is that in the cities of the United States where tuberculosis cases are reported, Schenectady ranks first with 4.8 cases per death. Taking this figure as an average number of cases for each death, we therefore had in 1918 some 153,072 cases of tuberculosis, or 1.48 per cent of the population of the Philippines for that year.

Now therefore a problem of the magnitude as the one in question needs more than one man to outline its program for its reduction. It is not the intention of this paper to formulate rules of conduct for its solution but to follow what has been done in other countries. The main considerations should be: first, the detection of every incipient cases, now called "Minimal" the chance of which for recovery is great; and, secondly, to control the spread of the disease by proper disposal of sputum. This is the key toward its solution but its practical application requires the attention of all agencies both governmental and private. But above all, public-health education should be given greater impetus, in other words, the knowledge of public health should be popularized.

HOW IS THE PROBLEM MET AT PRESENT

Without putting the blame on the Philippine Health Service, it should be mentioned at the outset that the time has come when we should follow the example of modern countries where a separate division in the health department is designated to be directly in charge of the tuberculosis problem alone, as heretofore mentioned. It seems that this change should have been made long ago but there have been so many epidemics, one following another that most of our attention has been given to this immediate need and rather alarming situation. The disease we have now under discussion comes so gradually and the course last for months and years so that the general public is not alarmed by its ever-presence.

We could claim that some thing is being done to meet this problem. We have in San Lazaro Hospital 100 beds for far advanced cases and 15 beds in Baguio Hospital for incipient cases. The Philippine Islands Antituberculosis Society maintains a sanatorium in Santol of 150 beds and a tuberculosis dispensary operating day and night in Manila. The Philippine Health Service does general preventive tuberculosis work similar to other diseases of communicable nature, but outside the institutions enumerated no other could be mentioned here. Horwood said in his article published in the American Journal of Public Health of January, 1924:

According to the standards determined by the Framingham Tuberculosis Demonstration, there should be one sanatorium bed provided for each death from tuberculosis during the course of one year.

In the face of these facts, it is needless for me to say that certainly we can not expect to solve the problem with our present inadequate facilities of only 165 beds in the Philippines for our total deaths, say during the year 1918, of 31,890. This fact has to be deeply considered in our future campaign which should be, more tuberculosis dispensaries for detection of cases, sanatorium treatment for incipient (minimal) cases and hospital accommodation for those far-advanced.

SUMMARY AND CONCLUSION

1. The problem is indeed serious and the situation seems to be getting worse.
2. We have done very little up to the present to check the onslaught of this malady.
3. It is therefore of grave concern and must receive the support of all officials, both public and private, and every citizen of the Philippines.

The outlook for the future, however, seems bright as steps are now being taken to remedy the situation. In the meantime we must preach the importance of fresh air, good food, regulated rest and exercise, ever remembering the intrinsic value of fresh air which is, according to Brown:

The best medicine! Two miles of oxygen three times a day. This is not only the best but cheap and pleasant to take. It suits all ages and constitutions. It is patented by Infinite Wisdom; sealed with signet divine. It cures cold feet, hot heads, pale faces feeble lungs and bad tempers. It has often been known to reconcile enemies, settle matrimonial quarrels and bring reluctant parties to the state of double-blessedness. This medicine never fails. Spurious compounds are found in large towns; but get into the country lanes, among green fields, or mountain top, and you have it in perfection unprepared in the great laboratory of Nature.

COOPERATION

It will verily be a great thing for this Country of ours that these crusaders for the relief of human suffering approach each other to frame a gigantic plan of methodical and un-stinted co-operation, in the common mission for a healthy and sane Filipino Nation against the persistent ravages of Indifference, Ignorance, and Neglect.—Dr. TEOFILO CORPUS, *Assistant Executive Officer, Philippine Health Service.*

* * *

The basis of all co-operation is good understanding.—Dr. HILARIO LARA, *Assistant to the Director of Health.*

* * *

The present attitude of the Philippine Health Service endeavoring to seek the co-operation of the private practitioners and the public is, indeed, in marked contrast to that during 1901-1903, an attitude which was then reminiscent of the days of the *guardia civil*. I have recently reported several cases of dangerous communicable diseases to the central office and I have always found the health officials courteous and accommodating. It is the bounden duty of every private practitioner to report every case of dangerous communicable disease to the health office. I generally do it by telephone. It is only thru mutual co-operation that we can hope permanently to eradicate epidemics in our country.—Dr. ANTONIO G. SISON, *Professor of Medicine, College of Medicine and Surgery, University of the Philippines.*

* * *

The lack of a perfect co-operation between the health officials and the private practitioners is due to both parties who often ignore each other. A better understanding can be secured if both parties will come to know each other better. While it is the duty of the private practitioner to report to the health office all cases of dangerous communicable diseases, it is no less the duty of the health officials to notify the private physician of the measures to be enforced. It is disconcerting for a physician to make a call only to find out that his patient has already been taken to a hospital for isolation! The thing to do is for neither party to ignore the other. Then we shall have perfect understanding and co-operation.—Dr. FERNANDO CALDERON, *Director, Philippine General Hospital.*

* * *

We talk of co-operation, co-operation, that beautiful and sonorous word which time itself has failed to render obsolete. But the more important question is *how* to co-operate. The medical student should be taught how to co-operate, with particular reference to effective preventive medicine, until he acquires the *co-operative* habit. On the other hand, the Bureau of Health should have a Division of Publicity and Educational Campaign. The private practitioner, when called upon to treat a case of dangerous communicable disease, not only prescribes for the treatment, but also instructs the patient and his relatives on the ways and means to prevent the spread of infection. Is not the physician doing the work of the health officer in this case? Our profession is altruistic and missionary, indeed! Let us bear in mind the fact that the private practitioner is the first health officer.—Dr. JOSE ALBERT, *Professor and Chief of the Department of Pediatrics, College of Medicine and Surgery, University of the Philippines.*

WHY TUBERCULOSIS PERSISTS

My DEAR JUAN:

Since the causes of tuberculosis are fairly well known to the physicians, this letter is especially addressed to you. While this disease lacks the frightfulness of cholera, the repulsiveness of smallpox, the dreadfulness of bubonic plague, and the loathsomeness of leprosy, tuberculosis is nevertheless the most widespread disease in our own Philippines, is causing the greatest percentage of morbidity and mortality, and is gradually but constantly drawing out our life blood. Do you know that for every death from tuberculosis in New York, there are five in Manila? Are you aware that about 30,000 countrymen of yours (or 300 for every 100,000) die from this dreaded malady every year? Do you realize that some 200,000 brothers and sisters of yours are actually suffering from this "white plague," and that if nothing vigorous and systematic is done, are likely to succumb to it? Because of the seriousness of the tuberculosis problem in the Philippines, an inquiry into causes should be very helpful.

The causes of tuberculosis may be divided into two groups; namely, the "causative" or the "exciting" factor and the "pre-disposing" factors.

The causative factor is a small "bacterium" or microörganism which is not visible to the naked eye, but which is discernible by means of a microscope after a special process of staining. It has a rod-like appearance and measures $\frac{1}{500}$ of a millimeter in length. As you see, the *tubercle bacillus*, as it is called, is indeed very small; but it is nevertheless deadlier than bullet or shrapnel. It is found in the infected tissues and secretions, like the sputum of consumptives, and it is introduced into our system by (1) inhalation, thru our respiratory passages nostrils and mouth); (2) by ingestion thru our digestive track (mouth); and (3) by inoculation into our skin or mucous membranes. Of these three portals of entry, the most important is the first, that is, the inhalation channel. Sputum, thrown into the streets, dries and disintegrates and then floats thru the air with the dust. This is a common source of infection. But still more important than this is what is called in medical par-

lance as "droplet infection." It is brought about by the inhalation by a person of minute invisible droplets expelled by a consumptive while the latter is talking, spitting, coughing, or sneezing.

From what we have already learned, the suppression and avoidance of tuberculosis seems quite simple. If all the sputa could be deposited in boxes containing sand or in cans containing disinfectant, and then disposed of properly; if we could avoid being coughed at or sneezed at by a consumptive; and if, while talking to a patient, we could keep ourselves at least eight feet from him, mortality and shortly afterwards tuberculosis would indeed, be reduced at once to its minimum and made only a mere memory of our present-day sickness.

We shall now briefly discuss the predisposing causes of tuberculosis. It is generally admitted that at the age of 12 every person must have already been infected with tuberculosis; and if the infection has been contracted gradually and the power of resistance of the system is strong, the person is not only free from the disease, but he must have likewise developed a certain degree of immunity or protection from it. The preceding statement goes to show the importance of personal hygiene or the care of ourselves with a view to making our body fit and resistant to the disease. If we have developed immunity and if our vital resistance is strong, exposure to infection will be reduced in significance. A healthy person may, however, thru imprudence or recklessness, lose his immunity to tuberculosis; and this loss will at once predispose him to the ravages of the disease. I shall now mention a few of the so-called predisposing causes.

1. *Anything which weakens the individual lessens his resistance.*—Here we have strenuous physical training like that of the athlete, excesses of any kind including extravagant amusements, enervating worry, lack of sleep. It has been well said that "any weak moment may play the part of predisposition," and that "nearly all hard zealots in the field of letters, law, love, medicine, and religion" are particularly predisposed.

2. *Lack of proper food.*—In our country, the lack of proper food is a prolific cause of lowered vitality. The underfed yields easily to tuberculosis. We Filipinos should strive more to fare on well-balanced foods. Our menu should have more of vegetables, fruits, meats, eggs, and milk than it now has. We should avoid delicacies between meals for such dainties often account for our lack of appetite at the meal hour. We should beware of indigestible articles, as indigestion is decidedly injurious to our nutrition. Fatty articles of food, like butter, cream, fat-meat,

and olive oil, are especially valuable in building up resistance against tuberculosis.

3. *Bad air.*—Lack of proper ventilation is next only in importance to malnutrition as a predisposing cause of tuberculosis. Here in our country, where the temperature is almost evenly warm and where the climate is practically equable thruout the year, there is no excuse for not having sufficient ventilation day and night. Let our rooms be flooded with flowing air constantly. Have absolutely no fear of the night air, provided you sleep with sufficient cover to keep you warm. "Colds" not infrequently lead to tuberculosis, and one of the greatest builders of resistance against "colds" is the early morning walk, say from six to seven o'clock, followed with a brisk bath. It is no little effort of will to leave one's warm bed; but once you are out, what a fine thing it is! If possible, this excursion should be repeated in the evening. A bath in the evening has this added advantage in that when you go to bed, you do not feel warm, and the blankets which protect you from the morning breeze become more welcome. This form of exercise can be easily graded according to your constitution, and it is entirely inexpensive. There is no reason why you should not be able to take it regularly.

4. *Tuberculosis predisposes you to other diseases*, just as much as other diseases are predisposing factors to tuberculosis. If in any way you do not feel well, you must consult a competent physician at once. Incidentally, you may be harboring intestinal parasites, like hookworm, which may be draining heavily upon your vitality.

5. *Alcohol and tobacco should be rigidly avoided.*—The once popular belief that these narcotics are good tonics has now been exploded. In the end, they only impair digestion, encourage bad habits, and most decidedly lower our vital resistance.

In the foregoing lines, I have tried to tell you what to do and what not to do to prevent tuberculosis. I wish to assure you that a slight infection with living tubercule bacilli need not cause you any alarm, provided you maintain a high degree of body resistance; but "this is not to be accomplished by becoming an athlete, but by the daily observance of general hygienic principles throughout life."

Please keep these words in mind: "Keep the body well nourished, avoid great fatigue, work and sleep in well-ventilated rooms, in freely flowing air, and spend as much time as possible out-doors; but carefully keep hours for adequate rest as well as for recreation, practice deep breathing and proper carriage,

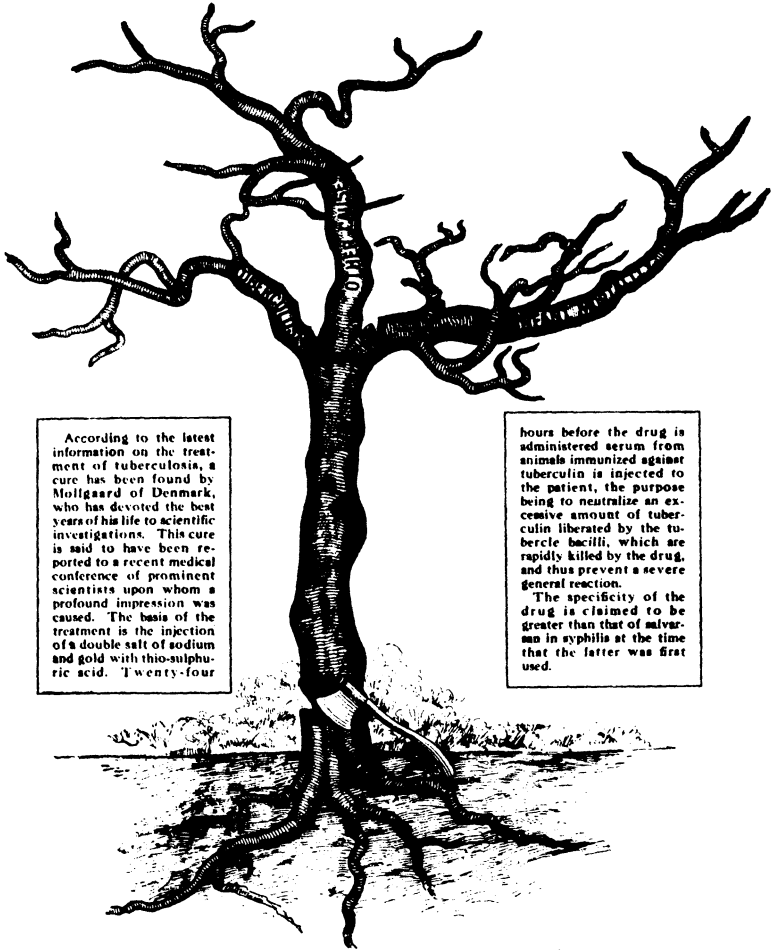
avoid other diseases as far as possible, and be temperate in all things."

Just another word, and my task is finished. May I plead that everyone of us cultivate good health habits? Can you imagine that college students, and even some doctors themselves, spit onto the streets and sidewalks? Habit seems, indeed stronger than nature. Thru sheer force of habit, a person may knowingly be doing wrong. Those of us who are in the maturity of life will be rendering a great patriotic service if we inculcate in our youth no notions of living habits except those of good health.

Yours for a healthy nation,

SIXTO Y. OROSA
Philippine Health Service

"In the long journey of science, it is the part of wisdom that now and then we should pause, retrace our steps to find out our past errors in order to insure the progress of our onward advance."—Dr. JOSE ALBERT, *Professor and Chief of the Department of Pediatrics, College of Medicine and Surgery, University of the Philippines.*



According to the latest information on the treatment of tuberculosis, a cure has been found by Mollgaard of Denmark, who has devoted the best years of his life to scientific investigations. This cure is said to have been reported to a recent medical conference of prominent scientists upon whom a profound impression was caused. The basis of the treatment is the injection of a double salt of sodium and gold with thio-sulphuric acid. Twenty-four

hours before the drug is administered serum from animals immunized against tuberculin is injected to the patient, the purpose being to neutralize an excessive amount of tuberculin liberated by the tubercle bacilli, which are rapidly killed by the drug, and thus prevent a severe general reaction.

The specificity of the drug is claimed to be greater than that of salvarsan in syphilis at the time that the latter was first used.

GENERAL MORTALITY TREE

PHILIPPINE HEALTH SERVICE

COMMITTEE ON PUBLICATIONS

SIXTO Y. OROSA, M.D., *Chairman*

JOSE P. BANTUG, M.D., *Member*

LEONCIO LOPEZ-RIZAL, M.D., *Member*

HILARIO LARA, M.D., *Member*

REGINO PADUA, M.D., *Member and Secretary*

COMMENTS ON CURRENT EVENTS

Let this far-flung cry be a warning and an appeal at the same time. In round figures, we are losing in the Philippines—
Our tuberculosis problem in terms of lives, in terms of citizens and prospective citizens, in terms of professionals and laborers in short, in terms of man-power and all that the term implies—the astounding number of 30,000 every year, or very nearly 300 deaths for every 100,000 inhabitants. What is more, the victims of tuberculosis are generally the adult portion of the population, or the bread-earners of the family.

At first sight, the problem seems staggering when we take into consideration the very inadequate weapons at our command to combat the disease. But with a coördinated effort, with every agency, institution, and individual working towards the same end, there is no reason why we can not reduce the ravages of this malady to their minimum, nay even uproot it.

Twenty years ago, tuberculosis was at the head of the list of causes of deaths in America; but now it occupies the sixth place. We certainly should spare no effort to make history repeat itself in the Philippines.

With increased wages and with the economic conditions improved, thus enabling every family to have the necessary amount and quality of food and other commodities, and with a due observance by the family of the rules of hygiene and sanitation, the problem becomes mainly educational. After all, it is Juan De la Cruz who should be taught how to deposit and dispose his sputum safely, how to avoid coughing or sneezing at a healthy person, how to prepare well-balanced meals, how to avoid other diseases which predispose to tuberculosis.

The part of the Government, however, is of paramount importance. There are several factors which merit the most se-

rious consideration of our authorities. We have the question of wages upon which our living conditions are dependent, the establishment of sanatoria for the proper care of tuberculosis patients, the provision of means by which effective educational campaigns can be carried out, the coördination and correlation of our Government and private organizations now waging a more or less "spurious and sporadic" campaign against the disease, and sundry other problems which demand urgent action. We should no longer receive from our authorities the cold reply of "no funds."

The benefits resulting from the eradication of the disease will be a hundredfold of whatever appropriation may be made to combat the disease. If we take into consideration the fact that in one year there are 30,000 deaths and considering further that about 15 per cent of the tuberculous die from the malady, the number of persons suffering from the disease may be roughly estimated at 200,000. While not all the tuberculous patients need hospital or sanatorium treatment, yet the number of beds available for the consumptives at the present time—less than 500!—is certainly very inadequate.

Our thousands of consumptives scattered thruout the Islands are crying for more sanatoria for the incipient cases, for more hospitals for the advanced cases, for more public clinics for the early detection of the disease, for more physicians trained in the prophylaxis and therapeusis of tuberculosis, for a more rigid vigilance in the enforcement of anti-spitting regulations and ordinances, for a more systematic reporting of the cases of tuberculosis, for a more active educational campaign, and for a unified effort on the part of the Government, civic and welfare agencies, and for a greater degree of public-spiritedness on the part of every individual in the observance of the rules of hygiene and sanitation. It is only then that we can successfully and promptly drive away the spectre of the White Plague from among us.

S. Y. O.

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Elsewhere in this issue we are publishing a spirited discussion on coöperation. To summarize, effective coöperation in the promotion of health can be brought about as follows:

1. Training the medical students in coöperative work for the advancement of preventive medicine.

2. Creation in the Philippine Health Service of a Division of Publicity and Educational Campaign.

3. Better understanding between the health officials and the private practitioners.

4. Better understanding between the health officials and the Insular officials of the Government.

5. Better understanding between the health officials and the provincial and municipal authorities.

6. Better understanding between the health officials and other Government officials on the one hand and the public on the other.

7. Better health education of the masses.

S. Y. O.

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The officers and employees of the Philippine Health Service have every reason to be appreciative to the Sixth Philippine Legislature that during its third session passed important laws affecting our public health. Of the laws enacted,

Health legislation we may mention the Pension and Retirement Act (No. 3173) for the officers and employees of the health bureau, an act which is an avowed recognition of the services so far rendered by them to the cause of public health in the Philippines. It is hoped that this law, altho still susceptible of further improvement, will induce experienced men to remain in the service as well as attract highly trained physicians to enter it.

Another most constructive piece of legislation is the new Hospital Act (No. 3168) amending Act 3114, which makes possible the long-cherished program of the Philippine Health Service to extend the hospital service thruout the Philippines. Before the Hospital Law was finally passed, there was a heated and prolonged discussion as to which bureau should administer the hospitals constructed under Act 3114 or to be constructed under Act 3168, but it was finally provided that the management and control of such hospitals should be entrusted to the Philippine Health Service.

S. Y. O.

PHILIPPINES HERALDS EDITORIALS

HEROES OF SCIENCE

[January 6, 1925]

The death of Professor Bergonie, distinguished radiologist, and that of Deminitroux, a chemist, from the effects of radium emanations, are no less heroic than sacrifices set against a background of moving action and of bloody strife.

Their contribution to the well-being of humanity, achieved in the spirit of service to science, records a story of self-abnegation as worthy of world tribute as the immolation of war martyrs.

Theirs a courage that faltered not in the face of an enemy whose striking power obey only the laws of nature, inexorable, treacherous because it is undeciphered, unknown.

And there are many like them their work in laboratory and in fields of investigation and research hourly bringing them closer to untimely death.

What greater witness to their full-love of their fellowmen than this devotion to a task that ends so tragically for them, but that, for others, materializes into full rewards in terms of greater immunity from dreaded ills.

The world has not as yet come to a generous appreciation of the heroism of these martyrs of peace, but the intellectual fraternity in all nations has been appreciative of the achievements of the great leaders of science, and the masses of people everywhere will in time be as deeply grateful and admiring.

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RESULT

[January 8, 1925]

The success of the Philippine Health Service in reducing by half the rate of mortality here during the past six years becomes the more creditable if we consider the great many difficulties that that office has to surmount in its campaign for better health conditions.

Foremost among these obstacles is the relatively small appropriation that is at its disposal for its island-wide activities.

The claim has been made, and rightly so, that the insular funds available each year for the health service is strikingly too meager for a country of the size of the Philippines.

It should, therefore, be said that the health service, in the matter of reducing the rate of mortality, has been most successful; that the methods it has adopted for the prevention and control of epidemics have been fruitful of results.

For this enviable record, the personnel of the health service should be praised. Their persistence in the face of prejudice and of opposition engendered by traditions and customs is being rewarded. Their service that at times runs counter to old conceptions of modes of life is slowly wending to its own reward in terms of better health conditions throughout the country.

The wonderful record of the health authorities in this connection reflects, we believe, a general improvement in the material well-being of the people. The enjoyment of material prosperity affects health conditions to an extent that makes for improvement. There is no denying that, in general, our people are living today in comparatively better homes, and eat better kind of food than in the recent past. They are also more disposed to trust science, and forget old practices hallowed by ignorance, especially so among those who have been reached and favorably impressed by the educative campaigns of the health service.

It seems ordained that, among the many blessings, the people expect to enjoy during this new year, that which is inherent in the enjoyment of good health will be most conspicuous

MISCELLANEOUS

SOME WORK OF METROPOLITAN DIVISION TRANSFERRED TO THE DIVISION OF SANITARY ENGINEERING

The mosquito, fly, and rat extermination work has been transferred, due to the nature of the work, from the Division of Metropolitan Sanitation to the Division of Sanitary Engineering of the Philippine Health Service. In this work the Rockefeller Foundation is actively coöperating with the Health Service. Engineer Ejercito, who has been trained in Del Carmen by the sanitary engineer of the Rockefeller Foundation, has been assigned to duty in the city and is being paid by the Foundation to coöperate with the Service in the mosquito, fly, and rat work.

PHILIPPINE HEALTH SERVICE VENEREAL CLINICS

The Philippine Health Service venereal clinics at the Philippine General Hospital reports 172 cases of gonorrhea treated and 65 cases of syphilis. Over 601 individual treatments were done. The clinic is open on Mondays, Wednesdays, and Fridays from 6 to 7 p. m. This is to give opportunity for those employed during the day to receive treatment at night. Gonorrhea is not sufficiently incapacitating for the individual to stay out of work, but the disease may lead to serious consequences if not attended to in time. On Tuesdays and Thursdays it is open from 2 to 4 p. m.

The treatment including the medicines are given free of charge to the deserving poor, and the Philippine Health Service advises all persons so affected to come for treatment at the earliest possible moment when the chances for cure are good. Every privacy is given to the patients.

HEALTH EDUCATION BY RADIO

In connection with the public-health education program of the Philippine Health Service, a series of nine lectures in Ilocano dialect are being given by Medical Inspector R. Padua thru the courtesy of the Radio Corporation of the Philippines to the crowds of the Vigan Carnival. The subjects are as follows:

- January 21—Sanitation in General.
- January 22—Water.
- January 23—Sewage Disposal.
- January 24—Flies, Insects, and other Disease-Transmitters.
- January 25—Water-borne Infections.
- January 26—Insect-borne Infections.
- January 27—Air-borne Infections.
- January 28—Control of Communicable Diseases.
- January 29—Few Hygienic Principles to be Remembered.

RURAL HEALTH DEMONSTRATION UNIT

The Director of Health has already ordered that preparatory steps be taken regarding the work of a Coöperative Rural Health Demonstration Unit in a nearby province. The aim of this drive is to demonstrate what

a modern organized coördinated system of health campaign can do. The result of this campaign will not only be of service to the management of rural or provincial health work as a whole in the Philippines but also to health workers in other tropical countries. Various local health problems will be studied with a view to obtaining the greatest efficiency at a minimum of cost.

GRADUATING EXERCISES OF THE GRADUATING SANITARY INSPECTORS

The graduation exercises of the graduating sanitary inspectors were held at the Mignon Hotel on January 11, 1925, at 4 p. m. The following program was rendered:

1. MUSIC.
2. OPENING ADDRESS..... Dr. M. V. ARGÜELLES, Secretary,
Course for Sanitary Inspectors.
3. MUSIC.
4. ADDRESS..... Mr. B. BERNARDINO, Class President.
5. MUSIC.
6. DISTRIBUTION OF CERTIFICATES... Dr. J. P. BANTUG, Executive Officer,
Philippine Health Service.
7. ADDRESS TO GRADUATES..... Dr. EUGENIO HERNANDO, Chief Divi-
sion of Metropolitan Sanitation.
8. REFRESHMENTS.
9. MUSIC.

ADMINISTRATIVE OFFICERS

Hon. E. A. GILMORE, LL.B., LL.D., *Secretary of Public Instruction*
J. FAJARDO, M.D., *Director of Health*
M. V. ARGÜELLES, M.D. *Secretary, Course for Sanitary Inspectors.*

FACULTY

- | | |
|-----------------------------|---|
| 1. J. P. Bantug, M.D. | 8. Serafin Macaraig, A.B., B.Ph. |
| 2. Isabelo Concepción, M.D. | 9. Manuel Mañosa, Sanitary En-
gineer. |
| 3. Fidel Cuajunco, M.D. | 10. Maria Paz Mendoza-Guazon, M.D.,
D.T.M. |
| 4. Elias Domingo, M.D. | 11. Regino G. Padua, M.D., D.P.H. |
| 5. Lamberto Leiva, M.D. | 12. Leoncio Lopez-Rizal, M.D. |
| 6. Gabriel Intengan, M.D. | |
| 7. Ramon Macasaet, M.D. | |

CLASS OFFICERS

President: B. E. BERNARDINO
Vice-President: ANTONIO ESTIOKO
Secretary: JUAN UMAGUING

GRADUATES—CLASS 1924-1925

- | | |
|------------------------------|---------------------------|
| 1. Apostol, Pablo..... | Ilagan, Isabela. |
| 2. Bernardino, Baltazar..... | Cabanatuan, Nueva Ecija. |
| 3. Buenaventura, Jose..... | Puerto Princesa, Palawan. |
| 4. Cruz, Felix..... | San Fernando, Pampanga. |
| 5. Estioko, Antonio..... | Davao, Davao. |
| 6. Flor, Juan..... | Laoag, Ilocos Norte. |
| 7. Gabriel, Jose..... | Dansalan, Lanao. |
| 8. Gacula, Maximo..... | Butuan, Agusan. |

GRADUATES—CLASS 1924-1925—continued

9. Gatpatan, Benito.....	Guimbal, Iloilo.
10. Holares, Graciano.....	Tacloban, Leyte.
11. Hontomin, Jose.....	Basco, Batanes.
12. Iñiguez, Jose.....	Malolos, Bulacan.
13. Jonson, Anacleto.....	Batangas, Batangas.
14. Layola, Mariano.....	San Fernando, La Union.
15. Lazo, Apolonio.....	Vigan, Ilocos Sur.
16. Marin, Alfonso.....	San Fernando, La Union.
17. Mora, Pio M.....	Tacloban, Leyte.
18. Pajarillo, Nemesio.....	Butuan, Agusan.
19. Patricio, Emigdio.....	Albay, Albay.
20. Raagas, Nicolas.....	Cagayan, Misamis.
21. Reyes, Enrique.....	Makati, Rizal (Insular).
22. Sabong, Donato.....	Lavezares, Samar.
23. Santiago, Ambrosio.....	Davao, Davao.
24. Tangeo, Jose.....	Pateros, Rizal (Insular).
25. Umaguing, Juan.....	Bayombong, Nueva Vizcaya.

DOCTORS FAJARDO AND INTENGAN ARRIVED

The Director of Health and the Chief of Provincial Sanitation arrived from an inspection trip in Nueva Vizcaya and the Mountain Province, respectively.

DISTRIBUTION OF ASSORTED VACCINES AND SERA

During December, 1924, the Philippine Health Service has distributed the following assorted vaccine and sera: Antidiphtheric serum, 240,000 units—P240; antitetanic serum, 267,000 units—P534; antidysenteric serum, 20 ampules (free); gonococcus ampules, 270—P135; cholera vaccine, 7,200 c.c. (free); mixed cholera-typhoid vaccine 43,260 c.c. (free); typhoid vaccine, 7,260 c.c. (free); vaccine virus (fresh), 248,100 units—P2,481; and dried vaccine virus, 12,100 units—P484, representing a total cost of P3,874 for the month.

REPORT OF LEPROSY PAROLE COMMITTEE, CEBU, CEBU

The Leprosy Parole Committee of Cebu, Cebu, reports that in the examination made on December 31, 1924, there were found 12 negative lepers and 4 positive. The positive lepers were transferred to the positive pavillion and the negative lepers placed under observation.

SANITATION IN ROMBLON

During December, 1924, the health conditions of the province were satisfactory. Special classes for temporary sanitary inspectors were given in order to carry out more effectively all health measures.

SANITATION OF THE PROVINCE OF CAVITE

During December, the work undertaken was connected with the clean-up week—cleanliness of private yards, and construction and repair of private Antipolo system principally in the town of Cavite. It was a great success. Hookworm treatment was given at Silang.

CONVENTION OF LOCAL HEALTH OFFICERS IN OCCIDENTAL NEGROS AND BOHOL

On December 13, 1924, a convention of local health officers of Occidental Negros was held at Bacolod and on December 18 at Tagbilaran in con-

nection with the arrival of Vice-Governor Gilmore's party, which was met by insular, provincial, and municipal officials.

Vice-Governor General E. A. Gilmore and Chief of Provincial Sanitation Gabriel Intengan addressed the conventions.

INSULAR AID FOR TARLAC PROVINCIAL HOSPITAL

The Council of State has recently released the additional amount of ₱7,587.93 as Insular aid for the operation of the Tarlac Provincial Hospital during 1924.

COMMITTEE FOR SELECTION OF ROCKEFELLER FOUNDATION FELLOWSHIP

By Executive Order No. 64, dated December 27, 1924, His Excellency, the Governor-General has appointed the Committee for the selection of Rockefeller fellowships as follows:

Dr. William H. Brown, <i>Chairman.</i>	Dr. George R. Lacy, <i>Member.</i>
Dr. Fernando Calderon, <i>Member.</i>	Dr. Otto Schöbl, <i>Member.</i>
Dr. Jacobo Fajardo, <i>Member.</i>	Lt.-Col. Joseph F. Siler, <i>Member.</i>
Dr. R. Abriol, <i>Member.</i>	Lt.-Col. J. H. Shepard, <i>Member.</i>
Miss Socorro Salamanca, <i>Member.</i>	

INSULAR AID FOR NUEVA ECIJA HOSPITAL RELEASED

The Council of State has released the amount of ₱6,000 as Insular aid for the operation of the Provincial Hospital of Nueva Ecija.

DISTRIBUTION OF GIFTS AMONG INMATES AT CULION

During last Christmas gifts were distributed to the children, nursing aids, patients, and invalids of the colony. The rest of the gifts for adults will be distributed during the first days of January.

REPORT OF CHIEF NURSE

Mrs. Carmen Leogardo, Chief Supervising Nurse of the Philippine Health Service, reports that in her recent trip in Laguna, Batangas, Cavite, and Rizal, the municipalities of Santa Cruz, San Pablo, Nagcarlan, Calamba, Batangas, Taal, Lipa, Cavite, Malabon, Pasig, Pasay, and Binalonan were visited. She states that district nursing in these places is satisfactory.

REPORT OF DR. RIVERA SAYO

Dr. Vicente Rivera Sayo, pensionado of the Philippine Health Service in the United States, reports that he is at present pursuing a course in Sanitary Engineering, public-health organization and vital statistics at the Johns Hopkins University.

He reports that the class in Sanitary Engineering visited the Montebello Filters, the water plant of the City of Baltimore where water purification and disinfection are being employed. He is also attending some important public-health lectures given at the University.

"THE MESSAGE"

The Public Health Nursing Section of the Filipino Nurses' Association is publishing an organ in the form of a leaflet called "The Message" which appears quarterly. It is edited by Miss Socorro Salamanca, Miss Eduvigis Beltran, and Miss Maria Tinawin, who are all registered nurses. We welcome the appearance of "The Message."

COMMISSIONED OFFICERS IN THE PHILIPPINE HEALTH SERVICE AS OF JANUARY 1, 1925

Director of Health, JACOBO FAJARDO

[Originally employed on April 24, 1902. Assumed present duties on November 25, 1924]

Assistant Director of Health, Vacant

Order in their present commission	Names	Present assignment	Date commissioned	Date originally employed	Remarks
	SENIOR MEDICAL INSPECTORS				
4.....	Eugenio Hernando.....	Chief, Division of Metropolitan Sanitation....	Mar. 27, 1919	Aug. 28, 1908	Chairman, Board of Food Examiners; Member, Pension and Retirement Board.
5.....	Gabriel Intengan.....	Chief, Division of Provincial Sanitation.....	Mar. 27, 1919	Feb. 1, 1909	Member Committee on Legislation; Lecturer on General Sanitation, Course for Sanitary Inspectors.
10.....	Leoncio Lopez-Rizal.....	Chief, Division of Communicable Diseases....	Jan. 1, 1920	Apr., 1909	Member and Secretary, Council of Hygiene, Chairman, Committee on Legislation; Member, Committee on Publications; Lecturer on Epidemiology, Course for Sanitary Inspectors.
21.....	Sixto Y. Orosa.....	Chief, Division of Hospitals, Dispensaries, and Laboratories.	Feb. 28, 1924	Sept. 24, 1914	Chairman, Committee on Publications; Member, Committee on Legislation.
7.....	Jose P. Bantug.....	Executive Officer.....	June 19, 1919	July 27, 1903	Chairman, Leprosy Treatment Committee, San Lazaro Hospital; Member, Committee on Publications, Board of Embalmers, Pension and Retirement Board, Committee on Legislation; Secretary, Leprosy Research Board; Lecturer on Publicity and First Aid and on Sanitary Organization and Administration Course for Sanitary Inspectors.
1.....	Rafael Villafranca.....	Chief, Office of General Inspection.....	Oct. 29, 1917	Jan. 24, 1902	Chairman, Committee on Industrial Hygiene.
16.....	Jose Guidote.....	Chief, Office of Vital Statistics.....	June 20, 1921	Aug. 3, 1914	Originally commissioned as Senior Medical Inspector on February 1, 1900; resigned on April 30, 1922, and reinstated on November 6, 1922.
19.....	Pacifico Laygo.....	District Inspector.....	Nov. 6, 1922	Sept. 18, 1908	
2.....	Florentino Ampil.....	District Health Officer, Paag, Rizal.....	Sept. 7, 1918	May, 1902	
3.....	Manuel Llorca.....	In charge, Health District No. 2, Sampaloc, Manila.	Sept. 7, 1918	Feb. 3, 1903	

6.	Miriam E. Griffin	Medical Inspector of Schools, South of Pasig River, Manila.	Mar. 27, 1919	May 6, 1911
8.	Roberto B. de Leon	In charge, Health District No. 1, Meisuc, Manila.	Aug. 15, 1919	June 1, 1907
9.	Fernando Gonzales-Sioco	District Health Officer, San Fernando, Pangasinana.	Aug. 20, 1919	Sept. 9, 1907
11.	Vicente Rivera-Sayo	Government Pensionado in U. S.	Jan. 1, 1920	Apr. 20, 1910
12.	Vicente Kierulf	District Health Officer, Tacloban, Leyte.	Feb. 1, 1920	Mar. 1, 1913
13.	Jose Avellana-Basa	Chief, Culion Leper Colony.	Feb. 1, 1920	Mar. 7, 1914
14.	Felipe Arenas	In charge, Section of Licenses, Philippine Health Service, Manila.	Jan. 1, 1921	June 2, 1913
15.	Manuel Ma. Aycardo	District Health Officer, Iloilo, Iloilo.	Jan. 1, 1921	Aug. 17, 1914
17.	Victorino de los Santos	District Health Officer, Batangas, Batangas.	June 20, 1921	Aug. 17, 1914
18.	Constantino Limjoco	District Health Officer, Pangasinan, Pangasinan.	June 20, 1921	Mar. 24, 1915
20.	Felino Simpao	In charge, Health District, No. 3, Paco, Manila.	Oct. 15, 1923	Apr. 16, 1914
22.	Sulpicio Chiyuto	District Health Officer, Cebu, Cebu.	Dec. 5, 1924	Dec. 15, 1913
MEDICAL INSPECTORS				
1.	Gabino Vinluan	District Health Officer, Tuguegarao, Cagayan.	July 1, 1915	Jan. 27, 1902
2.	Julian Pilares	District Health Officer, Jolo, Sulu.	July 1, 1919	Dec. 27, 1912
3.	Jose M. Raymundo	District Health Officer, Butuan, Agusan Province.	Feb. 1, 1920	Sept. 24, 1914
4.	Enrique F. Ochoa	District Health Officer, Bontoc, Mountain Province.	Feb. 1, 1920	May 1, 1915
5.	Teofilo Corpus	Acting Assistant Executive Officer.	Feb. 1, 1920	Sept. 6, 1915
6.	Bonifacio Mencias	Acting Chief, Office of Property.	Feb. 1, 1920	Oct. 8, 1915
7.	Juan S. Fernando	District Health Officer, Malolos, Bulacan.	Feb. 1, 1920	Sept. 1, 1916
8.	Catalino Gavino	Chief, San Lazaro Hospital, Manila.	Feb. 1, 1920	Oct. 26, 1917
9.	Eufemio Jara	District Health Officer, Lucena, Tayabas.	Dec. 18, 1920	Feb. 1, 1918
10.	Eusebio Aguilar	District Health Officer, Zamboanga, Zamboanga.	Dec. 18, 1920	June 8, 1918
11.	Alfonso Raquel	District Health Officer, Cavite, Cavite.	June 20, 1921	Sept. 28, 1914
12.	Gregorio E. Roque	District Health Officer, Cotabato, Cotabato.	June 20, 1921	Nov. 6, 1915
13.	Eugenio S. de Jesus	District Health Officer, Davao, Davao.	June 20, 1921	June 14, 1916
14.	Jose Vidal	District Health Officer, Sorsogon, Sorsogon.	June 20, 1921	Jan. 29, 1917
15.	Anatolio Dasmariñas	District Health Officer, Bacolod, Occidental Negros.	June 20, 1921	Apr., 1917
16.	Francisco Tolentino	District Health Officer, Laoag, Ilocos Norte.	Oct. 1, 1923	Nov. 23, 1915
17.	Regino G. Padua	Acting Assistant Chief, Division of Communicable Diseases.	Oct. 18, 1923	Jan. 3, 1922

Member, Culion Medical Board.
Chairman, Board of Masseurs and Member, Board of Embalmers.

Commissioned as Senior Medical Inspector effective January 16, 1925.
Passed Senior Medical Inspector Examination, May 10-12, 1923.
Do.

Passed Senior Medical Inspector Examination, on May 22-24, 1924.
Passed Senior Medical Inspector Examination, on May 10-12, 1923.

Passed Senior Medical Inspector Examination, on May 10-12, 1923: Chairman, Committee on the Insane, Committee on Tuberculosis, Committee on Diagnosis of Leprosy.
Passed Senior Medical Inspector Examination, on May 22-24, 1924.
Do.

Do.
Do.
Do.
Do.

Passed Senior Medical Inspector Examination, on May 22-24, 1924: Member and Secretary, Committee on Publications; Lecturer on First Aid and on Vital Statistics, Course for Sanitary Inspector.

Commissioned officers in the Philippine Health Service as of January 1, 1925—Continued

Order in their pre- sent com- mission	Names	Present assignment	Date commis- sioned	Date originally employed	Remarks
MEDICAL INSPECTORS—ctd.					
18.	Adolfo Aldaba.	District Health Officer, Tagbilaran, Bohol	Dec. 5, 1924	Feb., 1916	Member, Leprosy Treatment Committee. Member, Committee on the Insane; Lecturer on Mental Hygiene, Course for Sanitary In- spectors.
19.	Manuel V. Arguelles	Bacteriologist, San Lazaro Hospital, Manila	Jan. 1, 1925	June 25, 1917	
20.	Elias Domingo.	Alienist, San Lazaro Hospital, Manila	Jan. 1, 1925	Mar. 1, 1919	
SENIOR SURGEONS					
1.	Shannon Richmond.	District Health Officer, Albay, Albay.	July 1, 1915	Mar. 25, 1902	Passed Medical Inspector Examination, on May 10-12, 1923; originally commissioned as Senior Surgeon, October 4, 1918.
2.	Buenaventura Toribio.	District Health Officer, Malaybalay, Bukidnon.	July 1, 1920	Aug. 27, 1902	
3.	Severina Luna-Orosa.	Medical Inspector of Schools, north of Pasig River, Manila.	Apr. 1, 1920	May 1, 1914	
4.	Pedro A. Rodriguez.	Resident Physician, Zamboanga General Hos- pital.	Jan. 1, 1921	Nov. 1, 1917	Originally commissioned as Senior Surgeon, on September 1, 1919. Passed Medical Inspector Examination, on May 10, 1922.
5.	Marcelino A. Asuzano.	Assistant District Health Officer, Zamboanga, Zamboanga.	June 12, 1921	June 18, 1917	
6.	Nicanor Victoriano.	District Health Officer, Surigao, Surigao.	July 6, 1921	Sept. 14, 1918	
7.	Marcos Corpus.	District Health Officer, San Fernando, Ila Union.	Aug. 1, 1922	May, 1918	Passed Medical Inspector Examination, on May 10-12, 1923. Secretary, Pension and Retirement Board.
8.	Antonio Fernandez.	District Health Officer, Catbalogan, Samar.	Aug. 1, 1922	July, 1919	
9.	Hilario Lara.	Assistant to the Director of Health.	Aug. 1, 1922	Dec. 11, 1919	
10.	Jesus A. Nolasco.	Resident Physician, Rizal Memorial Hospi- tal, Dapitan, Zamboanga.	Oct. 1, 1923	Aug. 27, 1918	Jan. 1, 1904
11.	Catalino Buktaw Lazaro.	Resident Physician, Sibul Springs Sanita- rium, Bulacan.	Feb. 15, 1924	Jan. 1, 1904	
12.	Pedro Joven.	Medical Officer in Charge Systematic Vacci- nation.	Feb. 20, 1924	Mar. 12, 1918	
13.	Mariano Santos	Section of Licenses, Philippine Health Service, Manila.	Feb. 27, 1924	Mar. 16, 1920	Feb. 1, 1919
14.	Tirso Coronel	District Health Officer, Iba, Zambales.	Oct. 1, 1924	Feb. 1, 1919	
15.	Jose Castriello.	District Health Officer, Bangued, Abra.	Oct. 1, 1924	Feb. 1, 1920	
16.	Francisco Velez.	District Health Officer, Santa Cruz, Laguna.	Dec. 5, 1924	Feb. 1, 1919	Nov. 11, 1918
1.	Domingo R. Tablan.	District Health Officer, Tarlac, Tarlac.	Nov. 21, 1919	Nov. 11, 1918	
2.	Jose Mario Alonso.	Resident Physician, Cullon Leper Colony.	Feb. 1, 1920	July 1, 1919	
3.	Patrocinio Alejandro.	Resident Physician, San Lazaro Hospital, Manila.	Apr. 9, 1920	Apr. 10, 1919	
SURGEONS					

No.	Name	Position	Examined	Result	Remarks
1.	Ramon V. Ferrer	District Health Officer, Dumaguete, Oriental Negros.	Sept. 1, 1920	Apr. 1, 1919	
5	Jose J. Arevalo	District Health Officer, Balanga, Bataan	Sept. 1, 1920	July 19, 1919	
6	Manuel Arambulo	District Health Officer, Daet, Camarines Norte.	June 20, 1921	Feb. 1, 1919	
7.	Jamael Villarica	District Health Officer, Capiz, Capiz.	Sept. 15, 1921	Feb. 1, 1919	Passed Senior Surgeon Examination, on May 10-12, 1923.
8.	Jose Fernandez	Government Pensionado in United States.	Mar. 1, 1922	Apr. 26, 1920	
9	Toribio Joson	District Health Officer, Cabanatuan, Nueva Ecija.	Mar. 1, 1922	May 25, 1920	
10.	Pablo Hamoy	Acting District Health Officer, Dansalan, Lanao.	July 1, 1922	June 15, 1921	
11.	Francisco Gomez	Division of Communicable Diseases.	Aug. 1, 1922	Aug. 9, 1920	
12.	Domingo Penaballa	District Health Officer, Caragan, Misamis	Aug. 1, 1922	Oct. 9, 1921	
13.	Teodoro Dychitan	District Health Officer, Calapan, Mindoro.	Sept. 1, 1922	Dec. 1, 1920	
14	Bienvenido Caro	District Health Officer, Naga, Camarines Sur.	Sept. 6, 1922	Apr. 30, 1921	
15.	Rosario Pastor	Health Center, Philippine Health Service.	Sept. 28, 1922	July 1, 1921	Passed Senior Surgeon Examination, on May 10-12, 1923.
16.	Andres Baltazar	District Health Officer, Bayombong, Nueva Vizcaya.	Oct. 1, 1923	Apr. 4, 1921	Do.
17.	Esteban A. Fabie	District Health Officer, Puerto Princesa, Palawan.	Oct. 1, 1923	Apr. 13, 1922	
18.	Enrique P. Romulo	Resident Physician, Baguio Hospital, Mountain Province.	Oct. 1, 1923	Nov. 16, 1922	
19.	Macario Cuerpocruz	Resident Physician, Cotabato Public Hospital, Cotabato.	Jan. 1, 1924	Jan., 1921	
20.	Teodoro C. Arvisu	Chief, Baguio Hospital.	Feb. 4, 1924	Aug. 1, 1919	
21.	Vicente de la Serna	Assistant District Health Officer, Cebu, Cebu.	Sept. 23, 1924	May 20, 1922	
22.	Leopoldo Pardo	Resident Physician, San Lazaro Hospital.	Oct. 1, 1924	June 1, 1922	
23	Rafael Jagunap	Subdistrict Health Officer, Ifugao, Mountain Province.	Nov. 1, 1924	Sept. 26, 1921	

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
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VOL. V

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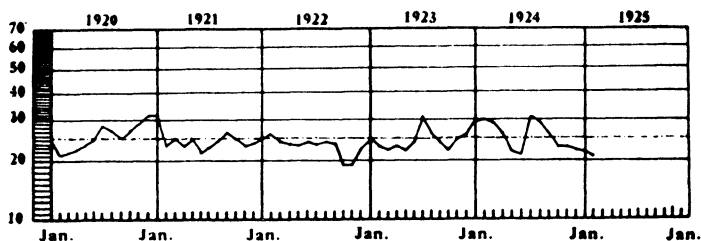
No. 2

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local can effectively prevent or control diseases without knowledge of when, where and under what condition cases are occurring."—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



..... Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

FEBRUARY, 1925

No. 2

ON THE ORIGIN OF A NEW SPECIES OF ANKYLOSTOMA
INFESTING MAN IN THE PHILIPPINES

By CRISTOBAL MANALANG, M.D.

Philippine Health Service

In a previous communication to the Journal of the Philippine Islands Medical Association, a species of hookworm as yet undescribed in this locality was reported by me. Search for the origin of this parasite revealed that the dog is the most probable host, as search in other domesticated animals (chicken, pig, cat, horse, carabao, and cow) has so far failed. Whether this parasite is identical with *Ankylostomum Ceylanicum* or *Ankylostomum Brazilenze*, or whether it is distinctly new species, the writer is not yet in a position to state, but he is inclined to believe that it is identical with *Ankylostomum Ceylanicum*.

The number of dogs examined is still small, but the findings have been so constant (100 per cent in seven animals) that a false conclusion is not likely to occur. The animals were of the vagabond class, except No. 5, and were obtained from the city pound. No. 5 was a pet and harbored a small number of parasites.

They were killed either with chloroform or strychnine arsenate, the entire small and large intestines were removed, opened, and the contents and mucosa scraped directly into a wire screen (80 mesh to the square inch) and carefully washed. The worms were found attached to the mucosa of the small intestine producing pin-head hemorrhagic spots.

They were associated sometimes with ascaris or *dipylidium caninum*, and constantly with *Ankylostomum Caninum*.

Table 1 shows the number of parasites classified by sex, of the man-infesting species and *Ankylostomum Caninum* as recovered from seven animals.

It will be noted that the new species constituted 26.5 per cent of the total number of parasites harbored.

Table 1

Animal number	Number of species		Number of worms	<i>Ankylostomum Caninum</i>		Number of worms	Total both species
	Male	Female		Male	Female		
1.	1	1	2	7	12	19	21
2.	5	5	10	9	19	28	38
3.	10	9	19	41	66	107	126
4.	10	12	22	6	8	14	36
5.	1	0	1	1	2	3	4
6.	12	8	20	7	11	18	38
7.	1	0	1	6	13	19	20
Totals.	40	35	75	77	131	208	283
Percentage by species	26.5			73.5			

Table 2 shows comparison of lengths of the human and dog parasites by sex; average, minimum and maximum lengths.

Table 2

		Human		Dog	
		Male	Female	Male	Female
Number of worms measured.		12	21	20	14
Average lengths.	millimeters	8.92	10.46	8.79	10.95
Minimum lengths.	do	8.	9.	8.	9
Maximum lengths.	do	10.	12.	10.	12.

The genital pore of the female parasite of both human and dog origin is located at about $\frac{1}{3}$ the distance from the caudal end. The cephalic curve is dorsal in both. The ova are identical in shape, size, and character (absence of division and the yolk fills the shell). The spicules are not barbed.

The following comparative sketches drawn to the same scale show the apparent identity of the human parasite with that found in dog.

Figure 1A. Buccal capsule of male parasite from human showing a pair of large teeth.

Figure 1B. Buccal capsule of male parasite from dig. No. 6.

Figure 2A. Deep focus of buccal capsule showing pair of small teeth. Same as 1A.

Figure 2B. Deep focus of 1B.

Figure 3A. Same as 1A (lateral view) showing the lancet.

Figure 3B. Same as 1B (lateral view).

Figure 4A. Dorsal ray ($\frac{1}{8}$ objective) of male parasite from man showing cleft at about $\frac{1}{4}$ to $\frac{1}{2}$ the distance from origin of the subdorsal ray.

Figure 5A. High power ($\frac{1}{8}$ objective) of 3A. The number of terminal digitations could not be positively counted. It seems as though there are two with a tendency to another division into two again by a shallow cleft.

Figure 5B. High power ($\frac{1}{8}$ objective) of 3B.

Figure 6A. Lateral view of the male bursa, parasite from man.

Figure 6B. Lateral view of the male bursa, parasite from dog.

CONCLUSION

Investigation of seven dogs show that they all harbor a species of *Ankylostoma* whose morphology is apparently identical with a new species infesting man. Attempts to produce in man infections with larvae of dog origin, are now under way.

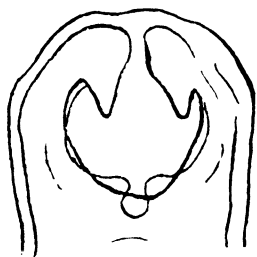


Fig. 1A



Fig. 1B



Fig. 2A



Fig. 2B



Fig. 3A



Fig. 3B

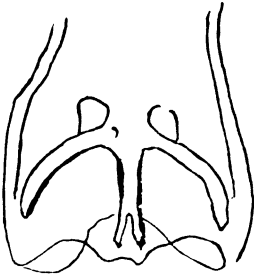


Fig. 4A

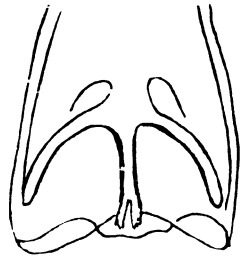


Fig. 4B



Fig. 5A

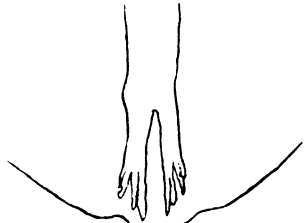


Fig. 5B

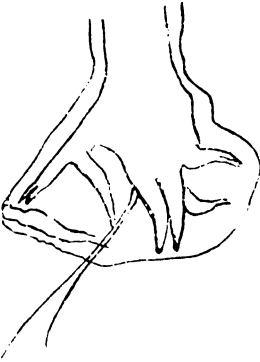


Fig. 6A

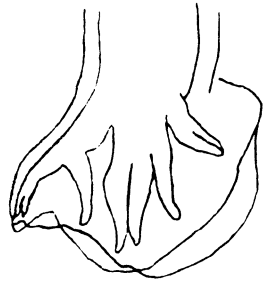


Fig. 6B

Science was not intended for the people, but for those of generous blood. Persons of low degree are only puffed up by it, and rendered vain and arrogant. Neither should such meddle with the affairs of government: for this would bring high offices into disrepute, and cause detriment to the state.—TUPAC INCA YUPANQUI.

INTESTINAL PARASITES WITH SPECIAL REFERENCE TO HOOKWORM INFESTATION AND TETRA- CHLORIDE TREATMENT

By CRISTOBAL MANALANG, M.D.

Philippine Health Service

I. THE HOOKWORM CAMPAIGN IN CEBU

Chiefly thru the efforts of Governor-General Leonard Wood, the Rockefeller Foundation (whose Director for the East is Victor G. Heiser, formerly Director of the Philippine Health Service) was induced to extend its work in the Philippines. With the coöperation of the Philippine Health Service, the Foundation's representative, Doctor Leach, began the campaign in the latter part of November, 1923, in the Province of Cebu.

The Province of Cebu is the most thickly populated island in the Philippines, with a population of almost a million and an area of 1,668 square miles of mountainous and rocky surface without forests. The towns are all along the coast. During rainy weather, the rivers overflow their banks and easily flood the lowly located towns. Not even the city of Cebu, its capital, is provided with a sewer system so that a generalized soil pollution with excreta in low places may be expected.

The campaign was begun in the town of Carcar because of the apparent presence of the hookworm diseases there, and the fact that its size (40,000 people), prosperity, and accessibility to the capital and other towns made it a good center for operation in the southern half of the province.

With the coöperation of municipal officials and the local health officer, the campaign was made known to the public by means of the "bandillo" (town-crier). This proclamation was done a few days before the arrival of the party. Twenty-four hours before, the municipal health officer distributed 50 to 100 enamel sputum-cups to a representative group of people and at the same time instructed those who desired treatment not to eat supper and breakfast and to be at the municipal building at 7 a. m., with bed-chambers, bedings, and more light food as milk, etc. The party made it a rule to arrive at a place the night before or early in the morning of the designated date.

In the beginning of the work, as a rule, one person presented for treatment the first day with the mass watching the effects. But on the second day hundreds took the treatment particularly if the trial case discharged many ascarides, a fact which was the rule. The campaign would never have drawn attention had it not been for the ascarides. Hookworms were not spectacular enough, or they took ascarides as hookworms. Before treatment the heart was routinely examined, and grave heart lesions, advanced cirrhosis of the liver, and alcoholism were eliminated.

The treatment was begun at 7 a. m. or earlier with one c. c. for every $5\frac{1}{2}$ kilograms of weight. The patients were requested to lie down, carefully told what they might feel, and told to save all bowel movements.

In the meantime, the laboratory was set up in some conspicuous place and the microscopic index of 50 or more specimens determined. Those found negative by direct smears were concentrated by the ether-flotation method. Here the municipal officials, school teachers, and students were invited and shown the ova, prepared living larvae, adult hookworms, and their life cycle, transmission, effects, and prevention explained in detail. Special emphasis is laid on the proper disposal of excreta and the construction of toilets. This task took up the entire morning.

While this demonstration was going on, those treated were accumulating from two to five movements each, and in the afternoon 20 or more were screened in public for the purpose again of demonstration, collection of worms for classification, and determination of the heaviness of infection.

On the second day, hundreds took the treatment, the public schools having been invited. Here was where the coöperation of the school authorities was important. In the first place, the best buildings for observation as temporary hospitals were school buildings; and secondly and most important of all, by demonstrating to the children the objects of the campaign, their influence would be most far-reaching, because there was hardly a home which had but at least one child in the public school.

In the afternoon of the second day, more feces were screened from those patients treated in the morning, if only a few more were treated the day before; otherwise, another demonstration and talk was given to the teachers and students. In the meantime, the neighboring town would be collecting material and getting ready for the arrival of the party that night or early the following day. Before leaving the place, the campaign was

left in charge of the health officer who continued the work. When an officer is in charge of two or three towns, he is assigned different days for treatment at each place.

With this plan closely followed, preliminary results were recorded thus:

Number of municipalities:	Percentage of infestation
11	90-100
13	80-89
4	70-79
4	60-69
2	50-59
1	42
1	27

Total 36

Towns	Hook-worm	Ascaris	Trichuris	Oxyuris by screening	Percentage with any of the parasites	Remarks
	Per cent	Per cent	Per cent	Per cent	Per cent	
Carcar.....	77	61			94	
Sibonga.....	83	91	72		98	
Argao.....	42½	87	67½		100	Two cases of teniasis.
Dalaguete.....	70	88	80		100	
Alcoy.....	54	92	67		96	
Bolhoon.....	27	77	77		95	
Oslob.....	66	96	68	87	100	One case of teniasis with 3 worms.
Dumanjug.....	93	83	76	50	100	
Ronda.....	80	70	40		100	
Alcantara.....	74	84	26		100	
Moalboal.....	65	90	75		100	
Radian.....	76	85	55		94	
Alegria.....	60	92	52		100	
Ginatilian.....	52	80	68		100	
Malabuyoc.....	91	100	82		100	
Sambuan.....	66	100	75		100	
Santander.....	96	88	64		100	
Toledo.....	87	87	40		100	
Pinamungahan.....	89	46	87		100	
Aloguinsan.....	100	32	6		100	
Bogo.....	80	80	25		100	
San Remigio.....	100	95	71		100	
Madellin.....	83	73	71		100	
Daan Bantayan.....	84	81	34		100	
Catmon.....	84	87	35		97	
Borbon.....	100	95	9		100	
Tabogon.....	97	100	20		100	
Sogod.....	97	83	11		100	
Danao.....	96	96	62		100	
Iloilo.....	80	84	64		96	
Compostela.....	84	84	57		100	
Carmen.....	83	66	40		100	
Asturias.....	90	93	64		96	
Balambang.....	88	80	64		100	
Tuburan.....	83	67	46		100	
Mandawe.....	96	80	64		100	
Banili.....				82		

The severity of hookworm infection and its damaging effect can not be estimated from microscopic indices alone. It can only be secured by enumeration of the worms each individual

carries, or better still by determining the "screen index" which takes a shorter time and can easily be computed on the first day of the campaign.

The "screen index" is taken as follows: A certain number of bowel movements taken at random is screened and the number of individuals from whom adult hookworms had been found is divided by the number of individuals examined, and the result is the "screen index." At the same time, the approximate number of worms obtained from individual feces is noted. Since the screening has been done on one or two bowel movements only from each case, it does not constitute the per capita worm count. If the "screen index" is compared with the microscope index, the heaviness of infection can best be appreciated. For example, in one place the microscopic index of hookworm infection is 93 per cent while the "screen index" is 62 per cent. This difference shows that altho in that place 93 per cent of the people were infected with hookworm, the infection was so light or the number of hookworms so few that in only 63 per cent were adult worms found by screening. On the other hand, another place had a microscopic index of 83 per cent and the "screen index" was 82 per cent. This slight variation shows that those examined carried enough number of adult worms so as to make them easily discoverable by screening. In this campaign where the time is limited, the degree of infestation is best determined by a comparison between the microscopic and the "screen index." In Carcar, where the hookworm disease is prevalent, nine anemic cases gave a per capita count of 136. Of 700 worms classified, 25 per cent were found to be *Agkylostoma duodenale* and the rest *Necator*.

Up to the present, some 26,000 have received treatment without fatality.

Besides the demonstration and public talks, pamphlets on the hookworm were freely distributed to the public and particularly to all the schools where the hookworm problem is especially emphasized in hygiene classes.

The most important part of this campaign next to the cure of the hookworm disease is the improvement of the system of sewage disposal.

The construction of dikes to prevent the overflow of rivers is under way in two large municipalities. At the present time, the most effective way of preventing soil pollution after diking rivers is the construction of the so-called "Antipolo system" of toilets which are covered pits provided with a hole for a ventilating-pipe and another the conducting-pipe. This form of

toilet is very cheap and will not pollute the soil unless washed off by floods. It is very gratifying to note that the campaign has increased materially the number of these form of toilets which replaced the common open-air toilet or pit. If this work could be pushed to the limit, the time would not be long before not only hookworm and other parasites could be reduced to the minimum, but also the gradual disappearance of intestinal infections such as cholera, typhoid-fever, and dysentery, would practically be a certainty.

II. SOME OBSERVATIONS ON THE EFFECTS OF CARBON TETRACHLORIDE TREATMENT

The following observations were made from 919 cases out of 1,123 admissions to the Zamboanga General Hospital from January to October 26, 1924.

Laboratory diagnosis consisted of finding the ova by direct smears on at least two slides with long cover glass by concentration method ("Cropper Row," using ether or gasoline) or culture. The concentration method is performed as follows: 2 to 5 grams of feces is shaken in a wide mouthed bottle with 20 to 30 c. c. of water until thoroly emulsified. Then 10 to 15 c. c. of ether is added and shaken again. The mixture is poured into a separatory funnel thru a layer of gauze to remove the coarse particles if there by any, and allowed to stand for a time until the ether has floated to the top carrying with it most of the coarse particles. The underlying fluid is centrifuged and the sediment examined.

Due to the high price of ether, gasoline has been substituted and found to be as efficient as ether as shown in the accompanying table based on 100 specimens.

Table 1

Parasites	Direct	Ether	Gasoline
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Ascariasis.....	38	40	39
Trichuriasis.....	64	83	80
Hookworm.....	22	46	47
Amoeba cystic Flagellate.....	13	8	8
Strongyloides.....	7	10	8

When feces is negative for hookworm by concentration then culture is made as follows: 2 to 3 grams are put on several layers of filter paper sorrouded with water forming an island. After 24 to 72 hours the water is centrifuged and the sediment examined for larva under low power. This method gives at least 5% more positives than the concentration method but takes longer time.

The following shows the parasitic incidence in 919 cases.

Table II

	Per cent
Ascaris	50.49
Trichuris	71.27
Hookworm	45.05
Strongyloides	3.60
Amoeba, cystic.....	13.60
Amoeba	0.11
Tenia nana	0.22
Flagellates	3.40
Balantidium	0.44
Blast-cysts	0.22

TREATMENT

The patient takes no supper or breakfast. At 6 a. m. he is given 1 c. c. of carbon tetrachloride for every 5½ kilograms of weight. The drug is given in a little water. He usually feels a little dizzy and occasionally vomits. The bowels often begin to move one-half hour after taking the drug (3 to 7 times in 24 hours) and all the stool is saved for worm count. Forty-eight hours at least is allowed after treatment before reëxamination. Subsequent treatments are given at 4 to 5 days interval.

The following tables show the results of treatment on all those that could be observed and controlled.

Table III

Parasites	Number of cases	Negative	Percentage	Positive	Percentage
Hookworm:					
First treatment.....	200	111	55	89	45
Second treatment.....	45	33	73	12	27
Third treatment.....	8	4	50	4	50

Table IV

Parasites	Number of cases	Negative	Percentage	Positive	Percentage
Ascaris:					
First treatment.....	129	60	47	69	53
Second treatment.....	8	4	50	4	50
Third treatment.....	3	1	33	2	67

Table V

Parasites	Number of cases	Negative	Percentage	Positive	Percentage
Trichuris:					
First treatment.....	189	3	2	186	98
Second treatment.....	55	4	7	51	93
Third treatment.....	7	1	14	6	86

Of ten cases of *Strongyloides* infection:

Four, treated once.

Five, treated three times (all remained microscopically positive).

One, treated four times.

A case of balantidiasis was treated at an interval of 26 days without effect.

Of 33 cases which took two treatments and became negative 1,381 worms or 97 per cent were removed by the first treatment and 40 worms or 3 per cent were removed by the second treatment. The per capita count was 43 worms.

The following table shows the type and sex of 1,034 worms classified:

Table VI

	Counts	Males	Females
Ankylostoma.....	136 or 13%	52	84
Necator.....	895 or 87%	291	607

THE PROBLEM OF THE DISPOSAL OF HUMAN EX-CRETA WITH SPECIAL REFERENCE TO THE ANTIPOLO CLOSETS

BY MARCELINO ASUZANO, M.D.

Philippine Health Service

In the history of our organization from the time of the American occupation up to the present time, the progress of sanitation accomplished in the Philippine Islands, could be divided into two periods, namely, the first period or period of elimination of the graver epidemic diseases such as smallpox, cholera, and typhoid fever; the second period could be called the period of constructive sanitation, which our Service is now actively engaged in carrying out all over the Philippines.

The problem of the disposal of fecal matter especially in small localities or barrios is intimately connected with the problem of barrio sanitation, and this problem is confronting not only the Philippine Islands but every civilized nation of the globe. As health officers conscious of the importance of the problem, it is our most indispensable duty to look into and try to determine the practical methods thru which the eyes of our masses may be opened to an understanding not only of the need of a proper, sanitary fecal disposal but also of the feasibility of advancing general sanitation in the barrios.

The question now presented to us as public health officers is how we can create this interest, and how we can educate the individual and the public as a whole. To my mind there are only two channels now thru which the inhabitants of our barrios may be educated to practice continuously and consistently the principles of sanitation, and the first and the foremost that comes up to our mind is the public school.

The second most important channel of improving and increasing the efficiency of barrio sanitation is thru the "man on the job." In carrying out this constructive work of sanitation in barrio communities the proper selection of the sanitary inspector and other personnel is very important. There is no other way by which the public can receive a more accurate and more direct information and knowledge of sanitation than thru the "man on the job." Experience has taught us that where proper individual appeal has been made, satisfactory and good result almost always follows.

The four common methods of fecal disposal in the Philippines are the following:

1. The pail system or "cubeta" mainly consists of a seat with its lid and under it a container or receptacle. The Philippine Health Service model is fly-proof and is almost mechanically perfect. The removal of the night soil should be collected under municipal regulation, and the collector should be provided and properly equipped with sealed pails to be kept clean and properly disinfected at all times.

2. The original pit system, which has now come in disuse.

3. The cesspool or "pozo negro." Where there is no system of running water great care should be taken as there is danger of pollution and contamination of nearby wells.

4. The septic tank. Septic tanks are of great service in localities where there is a water-carriage system. The water-carriage system of Zamboanga has been completed only a few years ago and almost all the houses in this city are now supplied with running water and as a natural consequence numerous houses are now installing the flush-water closet, and due to the absence of a sanitary-sewer system, septic tanks are being utilized.

The type of closet commonly known as the Antipolo system, with which all of us are familiar, consists of a covered pit the size and capacity of which varies according to the number of persons using it. A seat with a pipe is connected to the pit and provided with a lid which rests and properly fits upon the top of the hole arranged to close automatically when not in use to prevent the ingress of flies. A ventilating pipe made of wood or bamboo is installed from the hole to the roof of the privy house, and this vent must be screened to prevent the possibility of flies finding their way down the pit.

Observations made on the use of the Antipolo system of excreta disposal during the past years have led us to believe that this method offers the most satisfactory solution of the problem of rural excreta disposal that has yet been devised. When the Antipolo system of closet is properly constructed and well located, we find that its continued use with proper care gives almost perfect results upon any kind of soil. At first it was believed that this system of excreta disposal is not advisable and should be condemned in low places for it becomes easily flooded, but experience has shown with conclusive evidence that the Antipolo system of closet in such places gives a far better result than those constructed in high places, provided that the pit is properly constructed especially if the brink of the pit

is elevated above the level of the soil with material that will firmly hold together to prevent the water from entering or overflowing the pit. We must not forget the fact that for a successful operation of an Antipolo closet the presence of water constantly in the pit is very necessary.

The Antipolo system of excreta disposal from its beginning up to the present time have suffered numerous modifications always with the view of improving it, and I believe we have not reached yet the time where we can say the final word with regards to a perfect Antipolo system of closet.

I wish to emphasize three things with regards to this system:

(1) *The construction.*—In our campaign for the construction of more Antipolo closets we have at first advocated the use of light materials such as bamboo and nipa roofing for we thought that it was cheaper, but practical experience has demonstrated the fact that it is not so, for said construction only lasts at most 2 years. If the privy house is made of strong materials and if constructed in such a way that it can be lifted once the pit is full, then said construction will last not only 2 years but at least 10 years, and is thus cheaper in the long run.

(2) *Care.*—As already mentioned, for a successful operation of the Antipolo closet, the presence of water in the pit is very necessary. The disinfection of the pit at least once a week if necessary is suggested.

(3) *Location.*—In constructing Antipolo closets we must not lose sight of the great danger of contaminating the sources of water supply thru seepage; therefore, in digging the pit it should be as far as possible from the sources of water supply.

A BRIEF HISTORICAL SKETCH OF THE "ANTIPOLO SYSTEM" OF PRIVY¹

By JULIO RUIZ, M.D., *Philippine Health Service*

In the year 1901 there existed the "Civil Commission" which then was the legislative body of the Philippine Government. This Commission approved, on December 2nd of that year, Act No. 307, which provided for the creation of the provincial boards of health, which were the first sanitary units in the provinces. In January, 1902, the presidents of the provincial boards of health were appointed (known as district health officers since July 1, 1906) among whom was our veteran and worthy Director of Health, Dr. Vicente de Jesus.²

According to data at my command, it was in the month of April, 1905, or only four years after the political developments of 1899, that the "Antipolo" privy was first introduced.

The physician who in 1905 was the president of the provincial board of health in Rizal, with the end in view of having uniform sanitary regulations in the province, drew up tentative sanitary ordinances for the municipal council to adopt and enforce. In these proposed ordinances, among other things, the disposal of human excreta was included. It provided for the installation of privies with septic tanks, and privies with pits dug in the soil. The first privy with septic tank was installed, in the year 1905, in the municipality of Pasig.

In one of his inspection trips to Antipolo said health officer noticed that privies with pits were used but which were insanitary. Improvements were introduced which resulted in the privy now known as the Antipolo system. It was ordered by the then provincial health officer that pits be covered with either stone or woven bamboo splits, and then with earth, only leaving on said cover two holes to give way to two tubes, one, the soil pipe, charge from the seat, and other, the vent pipe. Due to the difficulty in securing iron tubing, bamboo of considerable diameter was used, the knots of which were removed. This system of privy was slowly generalized in Antipolo, spe-

¹ "Antipolo" is the name of a town in the Province of Rizal, Philippine Islands.

² Retired on November 25, 1924.

cially among the well-to-do and progressive people, as the poorer ones continued using the open-air privies.

In the month of April, 1912, the writer was appointed president of the board of health of Taytay and Antipolo. Then the "Antipolo" privy was much improved as compared with that used in 1906, as in certain homes, specially in those of strong and mixed materials, iron tubing was being used, and the pit cover was made of stone or concrete.

Much was said about the "Antipolo" privy being insanitary; that it was a breeding place for mosquitoes, etc. It was probably due to this that the then Director of Health, Dr. J. D. Long, in company with Assistant Director, Dr. V. de Jesus, held a conference with the municipal council of Antipolo, with a view to establishing the pail system of excreta disposal, but in this interview and after inspecting some privies, it was agreed upon to adopt the system in use in the locality (Antipolo system) on the condition that said privies be provided with galvanized iron tubing and stone and concrete cover.

In 1916, towards the month of August, a Sanitary Commission composed of a physician, an engineer, a bacteriologist, the chief of the division of provincial sanitation, and the district health officer came to Antipolo to study the digestion or process of transformation which fecal matters underwent in the "Antipolo" privies. For this purpose I quote some paragraphs from the report submitted by said Commission:

A study of the nature of fecal matter deposited in some "Antipolo" privies was made last August by the Sanitary Commission then working at Pasig in company with Doctors Clements and Mascuñana. Four privies were opened and the deposited matter examined. In privy No. 1, decomposition seemed to have been completed in the underlayer of the deposited deposition. There was very slight odor in the sludge due probably to recent use. This privy had been in constant use for about four years, during the time of pilgrimage, which lasts during this period, which is equivalent to a family of four using it for a year and a half. The deposited matter, however, did not amount to any considerable quantity.

Privy No. 2.— . . . The deposited fecal matter had now a brownish moist earthy appearance with no odor.

Privy No. 3.— . . . Ashes seemed to have been used as a deodorizer. Sample of the sludge was completely decomposed, and was odorless, with black earthy appearance.

Privy No. 4.— . . . This one contained ground water. Here the sludge seemed to have undergone septic action due to the presence of water.

It was in the year 1916 when the Director of Health commenced the campaign for the installation of the "Antipolo" privy all over the Philippines.

THE SPIRIT OF RESEARCH

Research has been defined as the "diligent inquiry or examination in seeking facts or principles; laborious or continued search after truth." It is the spirit of research which has led to the great discoveries in medicine, surgery, and hygiene, and to the invention of appliances used in all the arts and sciences, nay, in our everyday life.

The definition implies diligence. A diligent inquiry means a careful, devoted, painstaking, and steady study of theories, principles, or facts; it means earnestness in application to a subject or pursuit. The definition also includes laboriousness, which "requires labor, perseverance, or even sacrifice." Diligence, if made habitual, becomes industry; and a research worker, if he is to attain success or any great height, must not only be diligent, but also industrious. As Lyman Abbot has well asserted, "scholarship requires persistence in study of matter that repels or even bores the students."

The search after truth! That is the real mission of a scientist. There are those persons who are, indeed, endowed with a rich and prolific imagination; but a scientific investigator curbs his theories with reason, applies his principles soundly, and above all, seeks the truth in its naked form and presents his facts uncolored and undressed.

The officers of the Philippine Health Service have exceptional opportunities to perform researches, surveys, or investigations into subjects bearing on administration, sanitation, and hygiene. Those officers who are detailed in hospitals can well delve into the mysteries of medicine, pathology, the clinical laboratory, or into the recesses of anatomy, physiology, and surgery. Such opportunities should not be allowed to pass unused. Observations of phenomena should be carefully recorded for immediate or remote use, for the record of these observations, the compilation of facts and figures, or the disquisition of theories and principles constitutes medical literature.

Numerous are our health problems of national import which still await solution. Some of them are similar to those problems obtaining in other countries; others are peculiarly our own. We have heretofore been largely dependent upon the observations in other countries for the solution of our problems. Results found in one country may, indeed, find a general application to all the rest; but danger lurks in the blind adoption of measures found to have been beneficent in certain localities. It is, therefore, incumbent upon our health officers to contribute to the solution of our own national health problems, to the determination of the diagnosis, transmission, cure, and eradication of diseases peculiar to our country,—and may we hope that our findings here will find usefulness in other countries. There is no other grand accomplishment which will more rapidly and securely place the Philippines on the world's map of beautiful dreams fondly nursed and worthily realized.

SIXTO Y. OROSA

*Chairman, Committee on Publications
(Chief, Division of Hospitals)*

PHILIPPINE HEALTH SERVICE

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COMMENTS ON CURRENT EVENTS

Merely to free a "host" from his unwelcome "guest" without providing him with a safe method of excreta disposal, without furnishing him with safe drinking water, and above all without giving the necessary instructions on even the elements of hygiene and sanitation, will not eradicate the water-borne diseases. The Antipolo system of closet, if properly constructed, appears to have given satisfactory results. Its low cost makes it the more adoptable in rural communities. Health education is now generally conceded to be the basis of successful sanitation, for what good will it do Juan de la Cruz to have an artesian well in his neighborhood, if he will only contaminate the water in his receptacle at home with his dirty fingers? On this broad subject of health-education, we shall have occasion to dwell more extensively later on.

S. Y. O.

Few frequenters to our gastro-intestinal tract are less welcome than is the tiny hookworm. Measuring only about 10 millimeters in length by 0.4 to 0.5 millimeter in breadth, this worm causes an amount of damage to our system which is entirely out of proportion to its dimensions. Altho the anemia it causes is mentioned even in the "Papyrus Ebers," the eradication of the disease has not been so rapid as the world wishes it to be. Rarely spoken of as a direct cause of death, it nevertheless has greatly contributed and is contributing to many cases of untimely death, for it is a matter of common observation that the presence of the hookworm in our system is a great devitalizing factor which thus renders the body susceptible to many infections.

The different surveys made by the Philippine Health Service show that the incidence of hookworm infestation in the Philippines ranges between 35 and 90 per cent. Conservatively considering 35 per cent as the general incidence, upon the basis of a population of 10,500,000, we shall discover that this means 3,500,000 persons in the Philippines harboring the parasite. What a boon it will be for our country to free such a great bulk of its population from the hookworm, which day in and day out, in season and out of season, is sapping our life-blood, decreasing our earning power, and even possibly lowering our mentality!

While the Service has conducted and is conducting campaigns against the parasite within the means under its command, there is need of a really systematic and thoro campaign with a view to freeing from the parasite all those inhabitants harboring it, and with a view to eradicating the disease to insure its non-return. Carbon tetrachloride has been so far found to be the best and cheapest of the drugs employed against this worm.

From two to three doses are generally needed to expel the worms from our intestines and each dose costs three centavos (₱0.03). From one of the campaigns conducted by this Service in a province we gather the following data:

Number of persons treated.....	1,019
Number of persons employed in the campaign.....	6
Number of days the campaign lasted.....	3
Total expenses (including salaries, wages, travel, per diem, drugs, publicity, etc.).....	₱1,314.88
Per capita expense (per person treated).....	1.29

Granting therefore, that something like 3,500,000 individuals in the Philippines are infested with hookworm, if we had only six persons to conduct the campaign, it would take us 26 years to rid our inhabitants infested of the pest, (3,500,000) and the total cost would be ₱4,515,000. If we increase the personnel to 30, it would take us five years to effect our purpose at a cost of about ₱1,000,000 per year, not considering new infestations and reinfestations.

Let us ardently hope that the next Legislature will be more liberal in allotting funds for the Philippine Health Service. Should we be fortunate in securing an additional appropriation of one million pesos per year, it is reasonable to presume that within five years the ravages being made by the intestinal parasites will be reduced to a minimum, and incidentally also those of the other water-borne diseases. Will our Legislature respond?

S. Y. O.

ABSTRACTS FROM THE JANUARY, 1925, ISSUE OF "THE JOURNAL OF THE PHILIPPINE ISLANDS MEDICAL ASSOCIATION"

"PRELIMINARY ANALYTIC STUDY ON THE MEASURE OF THE FORCE OF MORTALITY DURING THE LAST DECADE IN THE PHILIPPINES"

REGINO G. PADUA, M.D., D.T.M., Dr. P.H.

The author gives the following summary :

1. Life table death-rates and population cannot be constructed, because our last two censuses do not agree as regards the age distribution.

2. The crude death-rates of the city and of the provinces cannot be made comparable due to peculiar age and sex distribution of the living population. They may be of value for routinary administrative measures when in one locality one year is compared with another.

3. The corrected (standardized) death-rate for the city during the last decade was calculated to be 29.77 per 1,000 population against the crude death rate covering the same length of time of 27.22; and that of the provinces is 24.72 against a crude death-rate of 25.50.

4. The epidemics of influenza and of smallpox have certainly disturbed the normal measurement of our force of mortality to the extent that, for the city, the corrected death-rate in 1918 and 1919 was 38.41 against 27.07 in 1922 and 1923—the two latter years being considered normal. In the rural districts, those epidemics increased the corrected death-rate to 39.02 per 1,000 population against 19.65 in 1922 and 1923.

5. The reduction of corrected death-rates during the last ten years has been on the whole greater in the provinces than in the city. In fact, the crude death-rate of the City of Manila had an increase of 0.52 per cent in 1922 and 1923 over that in 1914 and 1915, while that of the provinces showed a decrease of 8.22 per cent.

6. The mean death-rate in the whole Archipelago for the last ten years (including 1918 and 1919) was 25.75 ± 0.33 , while

that for eight years (excluding 1918 and 1919) was 23.51 ± 0.27 . There were no significant differences between the means and medians of the two periods under discussion. The mode in the first period (including the epidemic years) was smaller than the mean and therefore lies to the left side of it. On the other hand, the mode in the second period was found to coincide with the mean, having regard to the probable error of the modal distance "d."

7. The influenza and smallpox epidemics increased the measurement of dispersion of the variates in normal years, whether measured absolutely in terms of standard deviation or relatively in terms of percentage of the mean.

8. The variation curve in the death-rates during the last ten years presents a positive skewness (that is, it tails off steadily toward the right side of the range), while that during eight normal years (excluding 1918 and 1919) is more or less symmetrical. In the first period it is platykurtic, while in the second it is almost of the same shape as the mesokurtic Gaussian curve.

9. Our mean age at death in years is 24.11 ± 0.13 in the city and 24.40 ± 0.04 in the provinces. These figures are rather low in comparison with those of other cities and countries. The fault lies chiefly in our relatively excessive number of deaths at lower ages. The city loses by death more of its children under five years and of its adults above fifty years than the provinces.

10. The healthiest age in the Islands is apparently the second decade; the hygienic environment has apparently kept down the mortality rates of this and of the third, fourth, and fifth decades of life, beyond which our efforts as health officers have been fairly counteracted by natural and circumstantial adverse elements.

THE MOST COMMON PHILIPPINE FRUITS AND VEGETABLES SUITABLE FOR DIETETIC TREATMENT OF DIABETES

ISABELO CONCEPCION, M.D.

The author calls attention to the fact that our knowledge regarding the treatment of diabetes is acquired from foreign sources and presents the following tables showing the percentage of carbohydrates in certain foods commonly used in the Philippines.

Foods arranged approximately according to content of carbohydrates:

1 to 3 per cent	3 to 5 per cent	5 to 10 per cent	10 to 15 per cent	15 to 20 per cent
Lettuce Cucumber Horse radish (malungay) Celery (kinchay)	Tomato Bottle gourd (upo) Papaya, green Sprouted bean Sponge gourd String beans (canned) Leaves Endive (escarola) Squash Leek (cuchay) Cangcong Fern (paco) Chinese mustard Coriander (unsuy) Cabbage Pai-tsay Banana flowers Bamboo shoots Chinese radish (rabano)	Amargoso Eggplant Breadfruit Batao Cowpea (sitao) Sugar pea (guisantes) Squash Leaves Pepper (sili) Young onions Pig weed (colitis) Garlic Pasao Root Yam bean (sin-camas) Carrot	Lima beans (canned) Leaves Sweet potato Root Pungapong	Green corn Leaves Amargoso Root Yam (tuge)

Fruits arranged according to their content of carbohydrates:

5 per cent	10 per cent	15 per cent	20 per cent
Melon Santol	Papaya Macopa Watermelon Guava Pineapple Orange	Casuy Mabolo Duhat Chico Ciruelas Pears Apples	Mango Ates Bananas

SPECTACULAR EFFECT OF ETHER ANESTHESIA ON MYOCLONIC ENCEPHALITIS

ARISTON BAUTISTA, L.M. and AGERICO B.M. SISON, M.D.

The authors have found in a rather accidental manner good effects of Ether Anesthesia in a case of myoclonic encephalitis. The anesthetic was pushed to surgical anesthesia.

HEALTH INSPECTION OF SCHOOL CHILDREN

S. LUNA OROSA, M.D.

The results of the physical examination held at Meisic, Manila, from May to June, 1924, of children who were to be admitted into the city schools for that year are given by the author as follows:

Classification of results of examination of 10,237 children

	Number	Per cent
Normal.....	3,710	36
With defects.....	6,527	59
Excludable diseases.....	600	4
Trachoma.....	310	3
Acute conjunctivitis.....	60	0.5
Scabies.....	80	0.7
Others.....	50	0.4
With non-excludable diseases.....	6,027	
Dental caries.....	4,240	41
Enlarged tonsils.....	593	5
Miscellaneous diseases.....	1,340	13

MISCELLANEOUS

CONTROL OF LEPROSY IN INDIA

The Culsion Medical Board, composed of Dr. Jose Rodriguez as chairman, and Drs. Jose Avellana Basa, H. W. Wade, and G. A. Perkins as members, reports that Dr. E. Muir, leprosy research-worker of the School of Tropical Medicine, Calcutta, India, was invited to attend its meeting held on February 9, 1925. Doctor Muir informed the Board of the leprosy situation in India as follows:

"The plan for extending the leprosy work is based on a system of dispensaries and of colonies in which the segregation is largely voluntary, the control centralized. Only those cases not readily amenable to treatment are hospitalized. Most of the cases, however, found in India are of the type more amenable to treatment than those found in the Philippines. While, in the Philippines, tuberculosis is frequently associated with leprosy, in India it is not quite so; but on the other hand, syphilis is a rather frequent concomitant of leprosy."

On this occasion of Doctor Muir's visit to the Colony, Doctor Wade presented to him a copy of a memorandum on the idea of closer association of leprosy workers throughout the world. Doctor Muir expressed himself as in hearty accord with the purpose, and assured the Board of his coöperation to bring the plan to success.

SKIN-GRAFTING OF TROPICAL ULCERS

Dr. Em. B. Espinosa, Chief of the Cuyo Hospital of the Philippine Health Service, reports that he is performing skin-grafting on tropical ulcers in the hospital as follows:

"The ulcer is washed well with boric-acid solution. Then pieces of skin as large as rice grains are taken from the internal portion of the left thigh of the patient under local anaesthetic by means of a sharp razor. These pieces of skin are transplanted to the center of the ulcer and covered with a piece of banana leaf which has been previously sterilized. Much care is taken not to disturb the pieces. Three days after, it is found that these pieces of skin show new granulations.

"Then the ulcer is continually washed with boric-acid solution, and the banana leaf is applied from time to time.

"After more than two weeks, the ulcer heals, and the patient is discharged from the hospital."

Science ever tries to peer into the future.—PEARL.

THE BACTERIAL CONTENT OF TELEPHONES WITH SPECIAL REFERENCE TO RESPIRATORY PATHOGENS

1. Various pathogenic bacteria are present and can be isolated from the transmitters and receivers of telephones.

2. Hemolytic streptococci were isolated 15.9 per cent, the diphtheria bacillus in 2 per cent, and the pneumococcus in 1 per cent, from the transmitters and receivers of 94 telephones.

3. Ninety and nine-tenths (90.9) per cent, of 11 strains of hemolytic streptococci isolated were virulent for rabbits.

4. Sterilization of telephones should be practiced to prevent the spread of virulent organisms. Cleansing with soap and warm water and subsequent sterilization in bichloride of mercury, lysol, etc., is recommended.

5. In speaking, the mouth should not come in direct contact with the transmitter. The public should be taught how to use the telephone hygienically.—CLARENCE C. SÆLHOF.

A FEW FACTS ABOUT THE HOOKWORM

The hookworm has a general distribution thruout the tropical and subtropical countries.

Six hundred million individuals are estimated to be infested with the parasite.

Each female worm produces as many as 2,000 eggs in 24 hours.

"Embryo hookworms develop in the eggs passed in the fecal material and hatch in from eight to 48 hours. The embryo sheds its first skin in about four days after hatching. It develops to full size in about six or eight days, and carries its second skin as a sheath. It is now ready to penetrate our skin or to be swallowed with infected soil.

"The common domestic pig, in his operations as scavenger, sows the soil far and wide with the hookworm ova, either mechanically or thru his digestive tract. Experiments have been carried on which prove that the ova pass thru the digestive tract of the pig unchanged and are again deposited on the ground ready to hatch.

"The filiariform larvae usually enter the tissues of man thru the skin, or mucous membrane. It then migrates by way of the blood stream to the lungs.

"From the lungs it reaches the intestine by way of the oesophagus. This excursion from the point of entrance to the intestine takes from seven to 10 days.

"The parasite reaches maturity after reaching the intestine in about three to five weeks. The cycle is then repeated."

SERVICE NEWS

THE MILLION PESOS HOSPITAL FUND ¹

The Chief, Division of Hospitals submits the following report with regard to the million pesos hospital fund, (Act 3168) :

1. General status:

Amount appropriated.....	₱1,000,000.00
Amount released to date (since Act 3168 took effect).....	₱18,458.75
Amount recommended to be released.....	31,851.61
Amount likely to be applied for construction and equipment (projects already authorized)	69,000.00
Amount likely to be applied for maintenance	72,000.00
Total	191,310.36

2. Amount actually released:

Province	Date released	Amount	Remarks
1. Tayabas.....	Dec. 20, 1924	₱6,458.75	For construction (additional). For maintenance. For maintenance. For construction (additional)
2. Nueva Ecija.....	Jan. 30, 1925	6,000.00	
3. Laguna.....	Dec. 24, 1924	6,000.00	
4. Occidental Negros.....	Jan. 27, 1925	17,960.20	
Total.....		36,418.95	

3. Amount recommended to be released for construction and equipment:

Province	Date recommended	Amount	Remarks
1. Nueva Ecija.....	Jan. 19, 1925	₱13,891.41	Still pending.
Total.....		13,891.41	

4. Amount likely to be applied for construction:
(Projects already authorized.)

Province	Date exact amount inquired about from provincial treasurers	Probable insular aid	Remarks
1. Tayabas.....	Jan. 27, 1925	₱9,600.00	Estimates only. Still pending. Do. Do.
2. Bohol.....	Feb. 2, 1925	23,400.00	
3. Ilocos Sur.....	Jan. 27, 1925	18,000.00	
4. Laguna.....	Jan. 26, 1925	18,000.00	
Total.....		69,000.00	

¹ In addition to the ₱100,000 released under Act 3114.

5. Amount likely to be applied for maintenance:

Province	Probable date of opening of hospital	Probable insular aid	Remarks
1. Tayabas.....	Jan. 2, 1925	P25,000.00	Already in operation.
2. Laguna.....	Jan. 2, 1925	(6,000.00)	Already extended.
3. Nueva Ecija.....	Apr. 1, 1925	(6,000.00)	Do.
4. Occidental Negros.....	Apr. 1, 1925	20,000.00	
5. Pangasinan.....	Apr. 1, 1925	21,000.00	
6. Ilocos Sur.....	Apr. 1, 1925	4,500.00	
7. Bohol.....	July 1, 1925	2,500.00	
Total.....		72,000.00	

6. Provinces likely to apply for construction:

Province	Hospital and kitchen	Two doctors' cottages	Nurses' home	Equipment	Total
1. Albay.....	P70,000.00	P6,800.00	P3,200.00	P20,000.00	P100,000.00
2. Antique.....	70,000.00	6,800.00	3,200.90	20,000.00	100,000.00
3. Ilocos Norte.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
4. Sorsogon.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
5. Batangas.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
6. La Union.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
7. Leyte.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
8. Oriental Negros.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
9. Pampanga.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
10. Samar.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
11. Surigao.....	70,000.00	6,800.00	3,200.00	20,000.00	100,000.00
Total.....					1,100,000.00

**UNAUTHORIZED IMPORTATION OF DRUGS TO CULION
PROHIBITED**

In view of the report of the Culion Medical Board to the effect that antileprotic drugs are being imported to Culion, and that the lepers are secretly using them, the Director of Health instructed the Chief of the Colony to prohibit the use of drugs by the lepers other than those administered or authorized by the attending physician. Authority to import drugs other than those prescribed by the Philippine Health Service was granted by the Director of Health if deemed proper by the attending physician, provided that their administration be entered into the record as part of the treatment. The Chief of the Colony was furthermore instructed to investigate the extent each imported drug has been used clandestinely by the lepers in Culion, and to report to the central office the result of his investigation.

**PARTICIPATION OF THE PHILIPPINE HEALTH SERVICE IN THE
LAST CARNIVAL**

The Philippine Health Service participated in the last Carnival with a booth and an emergency hospital in the Carnival grounds and with floats in the parade. The participation of the Philippine Health Service in the parade merited the first prize for being the largest and the best organized unit. The floats were symbolic of the ravages caused by ignorance and superstition, and of the triumph of science over them. The sanitary regulations were strictly enforced in the carnival City, especially among the restaurants.

BROADCAST-RECEIVER DONATED TO CULION LEPERS BY THE ELECTRICAL SUPPLY COMPANY

The Culion Leper Colony is the grateful recipient of a broad-cast-receiver from Mr. Henry Herman of the Electrical Supply Company.

The apparatus was installed and tests were made on the night of January 28, 1925. The wireless constructor reports that the equipment will give satisfactory loud-speaking service at about 70 miles from the broad-casting-station, but it does not give so good a result at Culion.

To operate, the magnavox successfully at Culion without altering the broadcasting-power at Manila, according to the constructor, it would be necessary to use two or three stages of radio frequency amplification before rectification, i. e. increasing the amplifier output of the donated receiver. It is said that an outfit capable of delivering a volume of voice or music that will fill the lepers' theater of Culion would be the most proper there, and that the super-heterodyne receiver in its present commercial form manufactured by the Radio Corporation of America, will answer such purpose. The cost is said to be between ₱700 to ₱800.

COMMITTEES TO STUDY "TUBA," "TOYO," AND "TOKUA" CREATED

A Committee composed of Drs. L. Lopez-Rizal, Chairman, M. V. Arguelles, and H. Lara, members, charged with the study and report with recommendations on *tuba*, was created by Special Order No. 2, paragraph 24, February 13, 1925.

Dr. E. Hernando, Chairman, Dr. R. Villafranca and Mr. M. Mañosa, members, compose the Committee created by Special Order No. 2, paragraph 25, dated February 13, 1925, to study and make a report with recommendations on the manufacture of *tokua* and *toyo*.

THE NORTHERN LUZON HEALTH OFFICERS' ASSEMBLY

The Northern Luzon Health Officers' Assembly for 1925 will be held at Laoag, Ilocos Norte, April 27 to 30, inclusive, according to the circular issued by the Director of Health.

The Assembly period is divided into definite days of assigned activities.

The following provinces will be presented at the Assembly: Abra, Cagayan, Ilocos Norte, Ilocos Sur, Isabela, La Union, Mountain Province, Nueva Vizcaya, and Pangasinan.

The Director of Health states that he will attend the Assembly and personally supervise its activities.

OUR SERVICE INVITED TO ATTEND HEALTH CONFERENCE IN UNITED STATES

The Philippine Health Service was the grateful recipient of an invitation to the Conference of the Senate and Provincial Health Activities of North America, whose Secretary is the Health Commissioner of the State of Michigan.

EXCERPTS FROM THE REPORT OF THE METROPOLITAN DIVI- SION FOR THE MONTH OF JANUARY, 1925

Inspections (public buildings, slaughterhouses, restaurants, bakeries, hotels, etc.)	1,014
Sanitary orders issued (insanitary houses, garbage and manure disposal, etc.)	368

Foods (unfit) condemned during the month (shellfish, bagoong, fish, sardines, etc.)	kilograms	180
Sanitary permits issued to those free from communicable diseases and not carriers.....		1,201
Disinfections performed		10,622
Mosquito work:		
Number of breeding places oiled in private houses.....		23,123
Number of breeding place oiled in public property.....		15,823
Anti plague operation:		
Total number of rats caught during the month and sent to Bureau of Science for examination.....		5,075
Number of rats found infected.....		0
Number of complaints received.....		52
Number of complaints attended.....		52

The License section of the Metropolitan Division has been quite busy during the month. Much activity has been exhibited as judged from the number of sanitary orders issued and complied with as well as the number of permits approved and disapproved, and the number of physical examinations made.

A special form for Food Inspection has been introduced by the Division for the purpose of intensifying and systematizing food control work in the city.

During the month of January, 1925, the municipal district of Pandacan registered the highest mortality rate and the municipal district of Binondo the lowest. Pandacan registered also the highest infant mortality while Santa Ana the lowest.

The general crude mortality rate of Manila for the month was 21.5 per 1,000 and the infant mortality was 161.1 per 1,000 births.

The prevailing communicable diseases reported and discovered were tuberculosis and typhoid fever.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of January, 1925)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1925¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,340
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,320
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JANUARY, 1925

Date	Pressure (mean) ¹	Temperature					
		In shade ²				Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.
	mm.	°C.	°C.		°C.		8 a. m. mean
1-10.....	760.69	25.3	32.5	10	20.4	9	27.3
11-20.....	59.28	24.8	32.7	13	18.4	16	27.3
21-31.....	59.13	25.6	33.2	24	19.9	21	27.7
							2 p. m. mean
							27.7
							27.6
							28.1

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	78.7	82.4	4	72.5	10
11-20.....	76.1	79.3	14	74.4	12, 13
21-31.....	78.3	81.0	30	75.8	31

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day	Total	Daily maxi- mum	Day
1-10.....	NE	Km. 1,322.0	Km. 224.0	10	mm. 35.1	mm. 5.2	10
11-20.....	NE quad	1,466.0	220.0	12	37.0	4.6	15
21-31.....	E quad	1,495.0	228.0	30	38.7	4.2	24

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	68 35	8 00	3, 10	0.1	1
11-20.....	61 20	8 40	16	2.4	3
21-31.....	52 55	8 55	29	2.8	2

¹ Corrected for instrumental error and for temperature and reduced to sea level. Corrected to standard gravity, -1.72 mm.

² These values are taken from instrument mounted in the Observatory park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans.....	3	4	7	26.32
Filipinos.....	645	578	1,223	50.40
Spaniards.....	3	2	5	30.13
Other Europeans.....	1	1	2	20.93
Chinese.....	22	19	41	27.05
All others.....	3	5	8	43.12
Total and average.....	677	609	1,286	48.54

BIRTHS BY DISTRICTS

Districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. I, MEISIC:								
1. Tondo	193	150	343	12	13	25	368	55.12
2. San Nicolas	40	38	78	4	2	6	84	34.83
3. Binondo	16	23	39	2	1	3	42	28.82
Total	249	211	460	18	16	34	494	46.84
No. II, SAMPALOC:								
4. Santa Cruz	56	50	106	4	4	8	114	26.39
5. Quiapo	14	23	37	1	2	3	40	30.60
6. San Miguel	3	2	5				5	13.64
7. Sampaloc	149	119	268	4	7	11	279	85.00
Total	222	194	416	9	13	22	438	47.20
No. III, PACO:								
8. Port Area								
9. Intramuros	41	29	70	2		2	72	69.53
10. Ermita	24	25	49	1	1	2	51	38.22
11. Malate	13	14	27	1		1	28	20.56
12. Paco	79	88	167	6	3	9	176	132.73
13. Pandacan	4	3	7	2	2	4	11	22.70
14. Santa Ana	6	10	16				16	28.99
Total	167	169	336	12	6	18	354	53.10
Grand total	638	574	1,212	39	35	74	1,286	48.54

Attended by physician, living	277; Stillbirths	19
Attended by midwife, living	174; Stillbirths	2
Attended by family, living	835; Stillbirths	17

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans		1	1	3.76
Filipinos	280	291	571	23.63
Spaniards	1		1	6.03
Other Europeans				
Chinese	8	5	13	8.68
All others	1	1	2	10.78
Total and average	290	298	588	22.19

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	85	89
Divorced	1	
Widowed	23	59
Single	233	181
Condition not stated		1
Total	342	330
Grand total	672	

Stillbirths	28
Number of deaths with medical attendance	349
Number of deaths without medical attendance	828

DEATHS BY DISTRICTS AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Districts	Deaths	Annual death rates per 1,000
No. I, MEISIC:		
1. Tondo	178	26.66
2. San Nicolas	50	20.73
3. Binondo	15	10.29
Total	243	23.04
No. II, SAMPALOC:		
4. Santa Cruz	99	22.92
5. Quiapo	19	14.49
6. San Miguel	9	24.55
7. Sampaloc	88	26.81
Total	215	23.17
No. III, PACO:		
8. Port Area	1	2.51
9. Intramuros	14	11.58
10. Ermita	13	9.74
11. Malate	36	26.43
12. Paco	32	24.13
13. Pandacan	16	33.02
14. Santa Ana	18	32.61
Total	130	19.50
Grand total	588	22.19

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	99	88	12	9	208
1 year plus	26	22	1	2	51
2 years plus	11	14	2	2	29
3 years plus	3	6	2		11
4 years plus	4	5			9
5 to 9 years	8	8	2	1	19
10 to 14 years	8	5	3		16
15 to 19 years	12	9	4	2	27
20 to 24 years	17	12	4	2	35
25 to 29 years	13	11	1	4	29
30 to 34 years	14	15	2	1	32
35 to 39 years	9	17	6	2	34
40 to 44 years	6	11	2	4	23
45 to 49 years	10	13	4	1	28
50 to 54 years	11	11	3	1	26
55 to 59 years	7	6			13
60 to 64 years	12	10	3	1	26
65 to 69 years	5	3			8
70 to 74 years	6	9	1		16
75 to 79 years	1	4			5
80 to 84 years	2	5			7
85 to 89 years	2	2			4
90 to 94 years	4	4			8
95 to 99 years		3			3
100 years and over		5			5
Age not stated					
Total	290	298	52	32	672

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH AND MUNICIPAL DISTRICTS

Age groups	Health districts													
	No. 1, Mesic				No. 2, Sampaloc									
	No. 1, Tondo		No. 2, San Nicolas		No. 3, Binondo		No. 4, Santa Cruz		No. 5, Quiapo		No. 6, San Miguel		No. 7, Sampaloc	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year.	32	27	7	5	3	2	15	12	3	4	1	2	9	17
1 year plus.	6	8	1	1	1	1	7	3	1	1	1	1	6	4
2 years plus.	4	5	2	2	2	1	3	4	1	1	1	1	3	1
3 years plus.	1	2	1	1	1	1	1	1	1	1	1	1	1	1
4 years plus.	2	3	2	3	1	1	1	1	1	1	1	1	2	1
5 to 9 years.	2	3	2	1	1	1	1	1	1	1	1	1	2	1
10 to 14 years.	2	1	1	1	1	1	2	2	1	1	1	1	5	2
15 to 19 years.	1	1	1	2	1	1	2	2	1	1	1	1	3	2
20 to 24 years.	6	2	3	2	1	1	2	3	1	1	1	1	1	3
25 to 29 years.	2	6	3	1	2	1	4	3	1	1	1	1	1	1
30 to 34 years.	5	4	1	1	1	1	3	5	1	1	1	1	1	1
35 to 39 years.	2	3	3	2	1	1	1	1	1	1	1	1	4	2
40 to 44 years.	3	3	1	2	1	1	1	1	1	1	1	1	1	1
45 to 49 years.	5	6	4	4	2	1	1	3	1	1	1	1	1	1
50 to 54 years.	4	4	4	3	2	1	1	1	2	2	1	1	1	1
55 to 59 years.	3	4	3	1	1	1	3	1	1	1	1	1	1	2
60 to 64 years.	6	3	1	1	1	1	3	1	1	2	1	1	1	1
65 to 69 years.	3	3	1	1	1	1	1	1	1	1	1	1	1	1
70 to 74 years.	2	4	1	1	1	1	1	1	1	1	1	1	1	1
75 to 79 years.	1	1	1	1	1	1	1	1	1	1	1	1	1	1
80 to 84 years.	1	2	1	1	1	1	1	1	1	1	1	1	1	2
85 to 89 years.	1	2	1	1	1	1	2	1	1	1	1	1	1	1
90 to 94 years.	2	2	1	1	1	1	1	1	1	1	1	1	1	1
95 to 99 years.	2	2	1	1	1	1	1	1	1	1	1	1	1	3
100 years and over.	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Age not stated.	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total.	91	87	28	22	13	5	48	61	9	10	4	5	44	44
Grand total.	178	178	50	50	15	15	99	99	19	19	9	9	88	88

[Stillbirths not included]

18 1 3 1 1 1 9 3 1 3 2 1 1 1 3 1 2 3 1 8 5 4 1

Number of Deaths by Nationality and Sex, Occurring Among Residents in the City of Manila—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema.				14					1	2			40
161	Premature birth; injury at birth:			23										8
	a. Premature birth (not still-born).....			2	6									2
162	b. Injury at birth (not still-born).....			1	1									2
163	Other diseases peculiar to early infancy.....			2	1									3
	Lack of care.....				1									1
164	<i>XIII. Old age</i>													
164	Senility.....			8	20									28
165-203	<i>XIV. External causes</i>													
170	Suicide by firearms.....													1
179	Accidental burns (conflagration excepted).....			1										1
182	Accidental drowning.....			1						1				2
183	Accidental traumatism by firearms (wounds of war excepted).....			1										1
185	Accidental traumatism by fall.....			1										1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													1
	a. Railroad accidents.....			1										1
	c. Automobile accidents.....									1				1
199	Homicide by other means.....			1										1
204-205	<i>XV. Ill-defined diseases</i>													
205	Cause of death not specified or ill-defined:													
	a. Ill-defined.....			3										3
	Total.....		1	28,	291	1				8	5	1	1	588
	Grand total.....	1		571		1				13		2		

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
10	a. Typhoid fever			4	2									6
16	Diphtheria			1	1									2
16	Dysentery:													
	a. Bacillary			1										1
	b. Bacillary			1										1
	c. Unspecified or due to other causes													
29	Tetanus:													
	a. Umbilical			1	1									2
	b. Others			1										1
31	Tuberculosis of the respiratory system			1										1
36	Tuberculosis of other organs:			6	2									8
	a. Tuberculosis of the skin and subcutaneous cellular tissue													
		1												1
43-69	<i>II. General diseases not included in class I</i>													
44	Cancer and other malignant tumors of the stomach, liver			1	1									2
45	Cancer and other malignant tumors of the peritoneum, intestines, rectum			1										1
49	Cancer and other malignant tumors of other or unspecified organs			1										1
55	Beriberi:													
	a. Infants			2	1									3
70-86	<i>III. Diseases of the nervous system and of the organs of special senses</i>													
70	Encephalitis													
71	Meningitis:			1										1
	a. Simple meningitis													
	Cerebral hemorrhage, apoplexy:				1									1
74	a. Cerebral hemorrhage				2									2

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
11. Influenza:						
a. With pulmonary complications					5	5
b. Without pulmonary complications					1	1
29. Tetanus:						
a. Umbilical				3	1	4
31. Tuberculosis of the respiratory system					1	1
36. Tuberculosis of other organs:						
a. Tuberculosis of the skin and subcutaneous cellular tissue					1	1
38. Syphilis				1		1
55. Beriberi				5	44	49
56. Rickets	1				1	2
69. Other general diseases				1	1	2
71. Meningitis:						
a. Simple meningitis					4	4
b. Nonepidemic cerebrospinal meningitis					1	1
74. Cerebral hemorrhage, apoplexy:						
a. Cerebral hemorrhage					1	1
80. Infantile convulsions					1	1
99. Bronchitis:						
a. Acute					32	32
b. Chronic					5	5
100. Bronchopneumonia:						
a. Bronchopneumonia					17	17
b. Capillary bronchitis					3	3
101. Pneumonia:						
a. Lobar					1	1
113. Diarrhea and enteritis					12	12
118. Hernia, intestinal obstruction:						
b. Intestinal obstruction				1		1
126. Peritonitis without specified cause					1	1
128. Acute nephritis					2	2
154. Other diseases of the skin and annexa					3	3
160. Congenital debility, icterus and sclerema	15	6		11	10	42
161. Premature birth: Injury at birth:						
a. Premature birth (Not still-born)	7			1		8
b. Injury at birth (Not stillborn)	2					2
162. Other diseases peculiar to early infancy	2				1	3
163. Lack of care	1					1
205. Cause of death not specified or ill-defined:						
a. Ill-defined					2	2
Total	28	6		23	151	208

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	20,034
Number of rats caught by spring traps	3,249
Number of cage-wire traps set	744
Number of rats caught by cage-wire traps	3
Number and kind of baits (coconuts)	20,778
Number of poison portions placed	14,607
Number of rats found poisoned	320
Number of rats killed by clubs and other weapons	870
Number of rats found dead from other causes	633
Total number of rats otherwise caught, found dead, or killed	5,075
Total number of rats sent to the laboratory for examination	5,075
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JANUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1	5	1	6	1		2	2	5	1	8	3	13	4
	No. 2			1							1		1	
	No. 3	2							2				2	
	No. 4	7	2	2	4				7	2		4	9	6
II.	No. 5	1		2	1				1		2	1	3	1
	No. 6			2	1						2	1	2	1
	No. 7	7	1	3	1				7	1	3	1	10	2
	No. 8													
III.	No. 9	1		2	1				1		2	1	3	1
	No. 10	2	1	2	1				2	1	2	1	4	2
	No. 11	2		2	1				2		2	1	4	1
	No. 12	1		1					1		1		2	
	No. 13	1		1					1		1		2	
	No. 14			1									1	
	Transients	10	4	11	2		1	1	10	4	11	2	21	6
	Total	39	9	36	13		3	3	39	9	39	16	78	25

REMARKS:

Total cases reported within the month in the City of Manila.....	88
Resident cases.....	63
Non-resident cases.....	25
Foreign cases.....	0
Total deaths reported within the month in the City of Manila.....	25
Deaths among resident cases.....	19
Deaths among non-resident cases.....	6
Deaths among foreign cases.....	0
Total cases confirmed as typhoid fever.....	77
By autopsy.....	0
By blood culture.....	4
By widal reaction.....	4
By urine examination.....	4
By feces examination.....	0
By clinical symptoms.....	0
Cases confirmed as paratyphoid fever.....	69
Total cases not confirmed.....	1
	10

Typhoid Carrier—None

DYSENTERIES REPORTED DURING THE MONTH OF JANUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	2	2	2
	No. 2.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 3.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II.....	No. 4.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	2	1
	No. 5.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 6.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 7.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 8.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 9.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.....	No. 10.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 11.....	.....	.....	.....	1	1	.....	.....	1	1	.....	.....	1	1
	No. 12.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	2	2
	No. 13.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 14.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Transients.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Total.....	4	2	3	2	3	1	1	7	5	4	3	11	8

REMARKS:

Total cases reported within the month in the City of Manila.....

Resident cases.....

Non-resident cases.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases.....

Deaths among non-resident cases.....

Cases not confirmed as dysentery.....

Dysentery Carrier—None

11

8

0

CHOLERA REPORTED DURING THE MONTH OF JANUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Deaths	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.....	No. 1.....													
	No. 2.....													
	No. 3.....													
	No. 4.....													
II.....	No. 5.....													
	No. 6.....													
	No. 7.....													
	No. 8.....													
	No. 9.....													
	No. 10.....													
III.....	No. 11.....													
	No. 12.....													
	No. 13.....													
	No. 14.....													
	Transients.....													
	Total.....													

REMARKS:

Total cases reported within the month in the City of Manila.....	2
Resident cases.....	2
Non-resident cases.....	0
Foreign cases.....	0
Resident cases not confirmed as cholera.....	0
Non-resident cases not confirmed as cholera.....	2
Total deaths reported within the month in the City of Manila.....	0
Deaths among resident cases confirmed as cholera.....	0
Deaths among non-resident cases confirmed as cholera.....	0

Cholera Carrier—7

DIPHtheria REPORTED DURING THE MONTH OF JANUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts		Hospital				Home				Total				Grand total	
		Male		Female		Male		Female		Male		Female			
Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.....	No. 1.....														
	No. 2.....														
	No. 3.....														
	No. 4.....	1		1	1					1		1	1	2	1
II.....	No. 5.....														
	No. 6.....														
	No. 7.....														
	No. 8.....														
III.....	No. 9.....														
	No. 10.....														
	No. 11.....														
	No. 12.....														
Transients.....	No. 13.....														
	No. 14.....	2	1	4	1					2	1	4	1	6	2
	Total.....	3	1	5	2					3	1	5	2	8	3

REMARKS:

Total cases reported within the month in the City of Manila.....	12
Resident cases.....	4
Non-resident cases.....	8
Resident cases not confirmed as diphtheria.....	2
Non-resident cases not confirmed as diphtheria.....	2
Total deaths reported within the month in the City of Manila.....	3
Deaths among resident cases confirmed as diphtheria.....	1
Deaths among resident cases not confirmed as diphtheria.....	0
Deaths among non-resident cases confirmed as diphtheria.....	2
Deaths among non-resident cases not confirmed as diphtheria.....	2

Diphtheria Carrier—1

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF JANUARY, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	12	5	2	2
Varicella.....	9	6		
Varioloid.....				
Smallpox.....				
Measles.....	2			
Whooping cough.....	1		1	
Influenza.....	19	8	5	7
Bubonic plague.....				
Encephalitis lethargica.....	1	1		
Meningococcus meningitis.....	3		3	
Pulmonary tuberculosis.....	130	92	76	62
Tuberculosis of all forms.....	5	4	5	4
Beriberi, infantile.....	24	22	24	22
Beriberi, adult.....	1	1	1	1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	4			
Varicella.....	1			
Varioloid.....				
Smallpox.....				
Measles.....				
Whooping cough.....	1			
Influenza.....	2	2		
Bubonic plague.....				
Encephalitis lethargica.....				
Meningococcus meningitis.....				
Pulmonary tuberculosis.....	22	15	6	2
Tuberculosis of all forms.....	1		1	
Beriberi, infantile.....	2	1	2	1
Beriberi, adult.....				

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1925.

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Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated							
		Total vaccinations	Previously vaccinated		Under 1 year	1 to 4 years		5 years and over		Total		
			Never	Successful		Unsuccessful	Positive	Negative	Positive		Negative	
No. 1.	Tondo.	2,470	166	2,266	38	125		7	1,650	17	1,782	17
	San Nicolas.	1,296	100	1,075	121	87	4		124	709	211	713
	Binondo.	4,670	136	4,355	79	78	1	46	25	8	149	37
	Santa Cruz.	3,069	31	2,199	839	16		35	1,995	664	2,046	669
No. 2.	Quiapo.	12	12			6					6	
	San Miguel.	27	27			23					28	
	Sampaloc.	1,394	51	1,321	22	50		4	213	1,102	267	1,104
	Port Area.											
No. 3.	Intramuros.	3,303	93	3,193	17	34	1			5	34	6
	Ermita.	27	26		1	29	2				29	1
	Malate.	57	55		2	49	1				49	2
	Paco.	59	57		2	43	2			40	2	2
	Pandacan.	25	24		1	25	2			25	2	2
	Santa Ana.	26	15	7	4	21				4	21	4
	Total.	16,335	793	14,416	1,126	588	13	92	44	4,007	2,500	2,557

Vaccine virus:

Received	28,100
Used	22,700
Remained	5,400

Health districts	Municipal districts	Number of injections made in												Total number of injections							
		Adults						Children						First			Second			Third	
		First injections		Second injections		Third injections		First injections		Second injections		Third injections									
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.		
No. 1	Tondo.....	40	332	62	296	8	152	30	1,099	23	1,066	6	672	70	1,431	85	1,362	14	824		
	San Nicolas.....	107	812	26	796	1,357	1,357	177	188	60	100	132	132	284	1,000	86	896	1,489	1,489		
	Binondo.....	2	1,496	3	1,032	9	396	15	135	15	102	36	102	17	1,631	18	1,134	45	396		
	Santa Cruz.....	2	509	3	457	1	429	15	424	15	363	12	46	17	983	18	820	13	475		
No. 2	Quisno.....	6	90	2	70	340	718	2	258	2	61	3	356	8	808	2	390	3	620		
	San Miguel.....	6	354	329	329	441	14	238	14	134	6	157	3	942	126	564	32	696			
	Sampaloc.....	704	112	420	26	441	51	55	86	35	43	10	26	121	325	62	134	22	77		
	Port Area.....	66	239	27	91	12	51	59	72	18	40	17	56	178	313	62	130	88	146		
No. 3	Intramuros.....	119	241	44	90	71	90	59	72	18	40	17	56	178	313	62	130	88	146		
	Ermita.....	2	150	24	150	84	1	304	2	304	1	360	3	26	464	3	26	444	444		
	Malate.....	309	277	111	279	144	150	17	75	16	51	13	70	326	352	127	380	157	220		
	Paco.....	4	878	14	578	447	447	10	127	59	40	98	14	1,005	16	637	40	545			
	Pandacan.....	51	296	14	52	66	337	11	11	2	3	17	17	62	307	16	55	83	837		
	Santa Ana.....	55	134	74	105	55	97	36	64	41	54	33	51	91	198	115	159	88	148		
	Total.....	1,463	5,772	805	4,283	807	4,013	650	3,272	348	2,868	344	2,418	2,113	9,044	1,153	7,141	1,151	6,481		

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V, in persons never vaccinated before; R, revaccinations.

CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM THE PROVINCES DURING THE MONTH OF JANUARY, 1925¹

Provinces	Number of injections made in—												Total number of injections		
	Males						Females								
	First injections		Second injections		Third injections		First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.			
Iloilo	10	6					15	2					33		
Pangasinan	78	29	25	11			47	60	10	13			214	59	
Total	88	35	25	11			62	62	10	13			247	59	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES DURING THE MONTH OF JANUARY, 1925***

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay.....			9			
Bataan.....	16		5			
Camarines Sur.....	156	72	8	41		
Cebu.....	1,222	839	343	137		
Ilocos Sur.....	150	22	170	32		
Iloilo.....	26	19	25	17		
Marinduque.....	68	113	83	139		
Nueva Ecija.....	31	4	33	8		
Nueva Vizcaya.....	53	142	53	142		
Pampanga.....	1,029	1,298	604	1,136		
Pangasinan.....	246	312	118	227		
Sulu.....	3		6			
Tayabas.....	249	132	83	79		
Total.....	3,249	2,953	1,540	1,958		

Provinces	Number of injections made in females						Total number injected		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay.	1		6				1	15	
Bataan	18		14				34	19	
Camarines Sur.	102	49	4	23			379	76	
Cebu	1,039	637	341	134			3,737	955	
Ilocos Sur	110	18	104	42			300	348	
Iloilo.	23	12	23	12			80	77	
Marinduque	87	83	50	109			351	381	
Nueva Ecija.	50	8	51	20			93	112	
Nueva Vizcaya	30	171	30	171			396	396	
Pampanga	1,326	1,034	629	772			4,687	3,141	
Pangasinan.	221	293	166	196			1,072	707	
Sulu							3	6	
Tayabas.	159	17	35	8			557	205	
Total.	3,166	2,322	1,453	1,487			11,690	6,438	

* Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES DURING THE MONTH OF JANUARY, 1925¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Agusan	94	73	6	15
Albay	4,710	1,494	1,217	1,999
Batangas	1,040	276	63	701
Bohol	2,003	377	876	750
Bulacan	4,899	1,660	1,667	1,572
Camarines Sur.	5,140	584	3,264	1,292
Catanduanes	1,451	404	274	773
Cavite	5,732	845	3,748	1,139
Cebu	12,473	2,995	4,181	5,297
Culion Leper Colony	328	27	220	81
Iloilo	1,044	632	60	352
Laguna	1,093	421	245	427
La Union	1,986	507	792	687
Masbate	964	351	309	304
Nueva Ecija	424	267	66	91
Oriental Negros	1,705	442	522	741
Pampanga	918	388	291	239
Pangasinan	251	67	14	170
Tarlac	612	114	357	141
Tayabas	1,533	526	472	535
Total	48,400	12,450	18,644	17,306

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Agusan	48	25	13	4	2	2	63	31
Albay	371	148	419	194	841	490	1,631	832
Batangas	156	19	289	91	342	233	787	348
Bohol	61	23	276	114	525	642	862	779
Bulacan	824	88	932	222	1,231	484	2,987	794
Camarines Sur.	234	52	420	148	2,598	1,373	3,252	1,573
Catanduanes	176	77	164	95	66	78	406	250
Cavite	582	34	1,412	125	2,989	531	4,983	690
Cebu	843	467	1,159	411	1,643	1,675	3,645	2,553
Culion Leper Colony	19	6	8	3	173	119	200	128
Iloilo	112	27	232	70	214	113	558	210
Laguna	182	57	247	72	262	256	691	385
La Union	230	50	392	210	374	390	996	650
Masbate	40	34	75	57	95	84	210	175
Nueva Ecija	104	8	126	30	47	20	277	58
Oriental Negros	179	86	271	164	426	225	876	475
Pampanga	111	31	38	18	328	513	477	562
Pangasinan	81	11	107	28	60	83	248	122
Tarlac	96	26	62	30	182	518	290	574
Tayabas	175	50	241	80	447	360	863	490
Total	4,624	1,319	6,883	2,166	12,795	8,189	24,302	11,674

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES DURING THE MONTH OF JANUARY, 1925***

Provinces	Number of injections made in—					
	Males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Albay	534	462	139	31		
Catanduanes	2	65	2	88		
Cebu	211	340	10	18		
Pangasinan	5	20	5	17		
Total.....	752	887	156	154		

Provinces	Number of injections made in—						Total number injected		
	Females								
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.			
Albay	532	416	173	35			1,944	378	
Catanduanes	1	56	1	68			124	159	
Cebu	172	318	8	19			1,041	55	
Pangasinan	5	25	4	22			55	48	
Total	710	815	186	144			3,164	640	

* Incomplete; reports from other provinces not yet received.

NOTE.—A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF JANUARY, 1925**

Sera and vaccines	On hand January 1, 1925	Received during the month	Total to be accounted for	Dis- tributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	460,000	1,000,000	1,460,000	355,000	1,105,000
Anti-dysenteric serum (ampoules)	55	50	105	34	71
Anti-tetanic serum (units)	260,000	505,000	705,000	405,000	300,000
Cholera vaccine (c. c.)	92,290		92,290	5,700	86,590
Dried vaccine virus (units)	100	40,000	40,100	37,100	3,000
Fresh vaccine virus (units)	24,000	220,000	244,000	146,000	98,000
Gonococcus vaccine (ampoules)		200	200	200	
Mixed cholera-typhoid vaccine (c. c.)	102,040		102,040	61,660	40,380
Normal horse serum (ampoules)					
Typhoid vaccine (c. c.)	20,880		20,880	13,620	7,260

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE
MONTH OF JANUARY, 1925**

(No case and no deaths reported during the month.)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE
MONTH OF JANUARY, 1925**

(No case and no deaths reported during the month.)

**OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF JANUARY, 1925**

	Health districts—			Total
	No. 1 Meisic	No. 2 Sampa- loc	No. 3 Paco	
Orders pending January 1, 1925:				
Minor	99	63	30	192
Sewer	25	53	3	81
Vacating	13	11	16	40
Filling	10	24	5	39
Total	147	151	54	352
Orders issued during the month:				
Minor	5	18	18	41
Sewer	1			1
Vacating		5	1	6
Filling			2	2
Total	6	23	21	50
Orders completed during the month:				
Minor	16	25	14	55
Sewer		1		1
Vacating	2			2
Filling				
Total	18	26	14	58
Orders cancelled during the month:				
Minor	2			2
Sewer		2		2
Vacating				
Filling				
Total	2	2		4
Orders pending January 31, 1925:				
Minor	86	56	34	176
Sewer	26	50	3	79
Vacating	11	16	17	44
Filling	10	24	7	41
Total	133	146	61	340
Strong material plans approved:				
New buildings including additions and alterations	20	53	30	103
Permits for minor building constructions:				
Approved	28	50	25	103
Disapproved	15	9	6	30
New buildings completed	16	30	13	59
Permits for light and mixed material constructions:				
Approved	9	23	12	44
Disapproved	9	5	7	21
Prosecutions:				
Convictions	1			1
Dismissals	1	2	1	4
Amount of fines	P10			P10.00
Plumbing permits issued	36	76	52	164
Plumbing projects completed	30	62	38	130
Premises connected to the sanitary sewer to December 31, 1924	2,403	4,082	447	6,932
Premises connected during the month	5	9	5	19
Total	2,408	4,091	452	6,951

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

MARCH, 1925

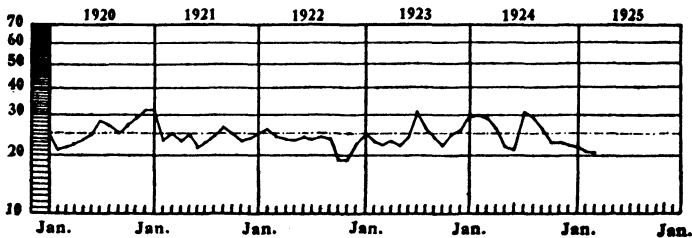
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No health department, state or local can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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No. 3

"SELL" YOUR HEALTH PROGRAM—A HEART-TO-HEART TALK TO HEALTH OFFICERS

By E. A. GILMORE

Vice Governor-General and Secretary of Public Instruction

The Department of Public Instruction is fortunate in that it combines under one jurisdiction two of the greatest concerns of human existence; namely, a sound and healthy body and a well-trained and well-developed mind. These two concerns are so intimately related that the best development of each can be realized only thru hearty coöperation of the officials administering matters affecting health and education.

The work of the Philippine Health Service may be divided into two general branches: preventative and curative. While it is important to cure people who have become sick it is much more important to discover the causes of illness and the means for its prevention. On the preventative side, one of the most effective agencies is: Education. Most people become sick thru ignorance. This ignorance consists of not understanding the significance of a clean environment and of clean personal habits. The work of the sanitarian must therefore be largely educational. Good health depends upon wholesome environment and wholesome habits of living. In developing such environment and such habits the sanitarian can get great help by working in coöperation with the local school officials. Health habits are of slow growth. The best way to develop them is by beginning with the children in the public schools. These children will acquire not only useful information for themselves con-

cerning matters of health but will carry home to their respective families the information received in school. I hope, therefore, that health officials in the different provinces will always work in close coöperation with the school officials.

The District Health Officer and the Division Superintendent of Schools are two of the key-men in each province. They, with their subordinate personnel, can accomplish wonderful results in promoting public health and sanitation.

While public health and sanitation are just as important as education, we should not lose sight of the fact that education is more popular and that it is easier to get financial support for education than for health and sanitation. I do not need to argue with the people of the Philippine Islands any longer about the importance of education. They are clamoring to go to school. We cannot supply schools fast enough. In matters of health and sanitation, however, much persuasion is still needed. The health officers have a more difficult task than the school officers. The people are now thoroughly convinced that they want education but they are not so thoroughly convinced that they want sanitation. If I may be permitted to use a certain slang expression a program of health and sanitation has to be "sold" to the community. A good sanitarian must be a good salesman and must practice the arts of salesmanship. He must convince the people that health and sanitation is something they need. He must interest them in a health program and get them as keen for it as they are for schools.

Public health and public sanitation is a matter of attitude. It is a matter of state of mind. Clean people are habitually clean; a dirty man is habitually dirty. The health habit has to be acquired day in and day out. We cannot produce it overnight. That is the reason why, I think, those of you who are engaged in sanitation work, in keeping the province clean, in warding off diseases, in teaching the people the acquisition of those habits which make disease impossible, have a very difficult problem. The health official has to move up and down in his territory, has to be an educator, has to carry a message of the importance of health and sanitation to the community. I wish that I could be swamped with appeals for Antipolo closets, for dispensaries, for permanent midden sheds, and all other kinds of sanitary improvements. A province well equipped with a good Antipolo system, a good system of public closets, and a good system of drainage is just as important as a province with many good school buildings. I think that what we ought to do is to "sell" a health and sanitation program to each

one of the provincial governors and the members of the provincial boards. We should get our people as enthusiastic about health as they are about education. I am glad to see a governor come to me not merely for school houses, but also to come with the same enthusiasm to seek for sanitary improvements.

In this connection, I wish to call attention to the nature of the service which health officials are called upon to render. It should be very clear that such officials owe a public service of paramount importance. While many of our health officials are permitted to engage in private practice, this pursuit of private interests must always be subordinate to the public obligations. Public service should always be given the first consideration. If a health program is to be "sold" to the community, as I have indicated it must be, the most effective way to "sell" it is to render the fullest measure of excellent service. The best way to get a man to buy a thing is to let him use it until he finds he cannot get along without it. Our health service should be made so valuable and so efficient that no community will be able to get along without it. We will then have no difficulty in getting money for its support. Look to your work, therefore, look to your service; get enthusiastic over your work; feel that your work is indispensable for the life of the community and make the community feel the same way. This is what I mean by "selling" your health program.

TRAINING FOR HEALTH IN HOMES¹

By SEVERINA LUNA-OROSA, M.D.

School Physician, Philippine Health Service

Women as potential mothers and homekeepers, are bound to perform in their homes the varied duties required of them. Their duties as mothers and homekeepers may be professional as well as menial, those of a mistress or those of a servant. And they will often find themselves following the professions of a nurse, of a doctor, of a social worker, a teacher, or those of a religious preacher; and these tasks she may perform separately or all at once. Thus they become versatile as well as proficient. Need we wonder then if they prove successful in the practice of these professions, even outside of their homes, when these professions are but continuations and amplifications of their home duties? And should they, perchance, choose to pursue any one of these professions outside of their homes, lend them assistance and encouragement for they would only be playing mother to other people's children, they would only be extending the bounds of their own homes to include others in their warm embrace.

But in the exercise of the freedom which is now given them, they should first choose to be leaders in their own homes before they become leaders in the outside world, lest they miss their true mission. Let them first assume leadership against the enemies of the home—against bad habits and vices, against social evils and immorality, against ill-health and disease; for this is the highest service they can render to the world, a service which they should pledge to give on assuming their duties as mothers.

Women as mothers and homekeepers should be the teachers to establish in their homes the first institutions wherein to begin the training and education of all. There they are to lay and make secure the foundation-stones upon which the schools and other educational agencies will have to build.

The training in the home—whether for physical, mental, or moral health—should begin early. It should begin with the

¹ Excerpts from an address read before the Convention of the Federation of Women's Clubs in the Philippines on February 4, 1925.

infants, indeed with the parents, who should possess the very qualities they are expected to bestow; and in order to bestow health, they should possess health. Parents should undergo this training to qualify themselves for their sacred duty; inasmuch as a vicious, an intemperate, or a physical weakling can never be a good parent, and neither can a defective, a temperamental, or a nervous wreck. Parents should forego the fleeting and harmful pleasures of society; and, far from encouraging or cultivating them, parents should discourage and fight them. And this fight must begin at home. In order that the children may not fall victims to social vices and evils, the parents must not fall a prey to them. The parents should be the first abstainers and crusaders against gambling, drinking, and kindered vices, so that their children may not become gamblers and drunkards. Parents too will have to convert themselves into apostles of healthful and beneficial activities—like wholesome athletics, educational recreation, and the like. And like the fight against social evils, the cultivation of healthful habit or play should begin at home.

The pallid, nervous prospective mother, ever secluded in her home and ever burdened with cares, will do well to begin this training with herself by spending certain hours in the open, taking the refreshing cool air outdoors, and forgetting her cares now and then for the good of herself and her offspring.

Time was when our idea of beauty was extraneous to that of health, and we used to admire the combination of a delicate frail frame with a pale complexion, sunken-eyes, and a pathetic or melancholic expression; but nowadays we can no longer conceive of beauty except in terms of health, for indeed health is the foundation of physical perfection, the source of mental and spiritual beauty. Now health means to us physical perfection combined with a sane mind and a sound morality. This combination alone can produce the real signs and expressions of health, which should furnish our standards. These same ideals constitute the present index of beauty, for do we not see beauty in a physically perfect body, in clean, bright eyes, a clean complexion, a vivid expression, and a happy, cheerful disposition? And are not these but the external signs of life and health?

To train for health is to practice and obey the rules of health; and the success of this training will depend materially upon the parents as the teachers, whose duty it is to impress upon their children the value of health. The most fundamental rules of health relate to the hygiene and care of our body and mind—

to cleanliness, to nutrition, to exercise and fresh air, to rest and sleep.

It is most important to begin training early and to practice persistently the rules of health in order to make their performance habitual and automatic. This is more particularly true with regards to the formation of our alimentary habits, upon which depends to a great extent our nutrition.

Upon mothers as homekeepers devolves also the duty of providing for the proper feeding of the family. This duty demands their intelligent care and attention. The selection and preparation of our daily foods needs their personal care and supervision and requires a knowledge of dietetics as well as of the science of nutrition. Our tastes and relishes, our likes and dislikes—all our alimentary habits—are acquired and formed according to the habitual way our food is prepared and served; just as our nutrition depends upon the quality of our food as well as upon our alimentary habits and education. These habits may thus be normal or perverted, and they thereby bespeak of the management of our homes.

The days are past when this preparation of our food was entirely left in the hands of hired cooks and servants, who lack the interest and training that our housewives should have. Nowadays we have come to realize the importance to the housewives of an adequate knowledge of dietetics and nutrition as a fundamental part in home-training for health, for good nutrition is a requisite to good health.

To be complete, home-education and training should include sex-education. The ultimate aim of the parents should be not only to bring up healthy children, but to produce upright men and women, who are conscious and well informed of their powers, aware of their limitations and pitfalls, firm in their principles and conviction—men and women who are as ready to face the social evils and conquer vice and immorality as to defy ill-health and disease.

NARCOTICS AND PROHIBITION¹

By SEVERINA LUNA-OROSA, M.D.

School Physician, Philippine Health Service

Great social reforms demand vigorous measures and staunch supporters for they are sure to meet with formidable obstacles, And this great temperance movement which has for its object social reforms for evils widely spread and deeply rooted has had and will have its due share of opposition. I refer to the movement of prohibition against the use of alcohol and other narcotics such as tobacco and opium.

I believe we do not need to dwell much on the evil effects of these drugs on the body, particularly when taken habitually, for they are well known, but we may summarize the results of experiments and experiences of scientific and experienced men, whose opinions I shall quote here:

Doctor Eliot says: "In the first place it should be brought home to the entire population that the habitual use of alcoholic beverages reduces in a serious degree the productive efficiency of the community. In the second place recent experiments on the effect of alcohol on the nerves and glands of the human body have demonstrated beyond a doubt that alcohol invariably does harm and never any good either in health or in disease."

Another authority says " * * * an intimate relationship exists between alcoholic indulgence in parents and high mortality among their children, or permanent deterioration in health and physique of the surviving children.

"It is thru its influence on character and by the production of poverty that the immense influence of alcoholic indulgence in increasing infant mortality is experienced."

However modest my experiences as a physician might have been, I can safely assert that alcohol is unnecessary for our body economy either in health or disease, and that besides the many chronic as well as brain diseases which the habitual use of alcohol produces, it is no longer open to doubt that it blunts the moral sense and finer sensibilities, weakens self-control, and

¹ Read before the first Annual Convention of the Woman's Christian Temperance Union of the Philippine Islands. January 2, 1925.

undermines character; thus, as one on the three racial menaces, it is the worst enemy of mankind, physically, socially, and morally.

What is true of alcohol is true of tobacco, and with certain limitations, of opium and other narcotics. As a matter of fact, these are often companion evils, the habitual use of one often leading into another. Henley says this of smoking: "A close connection exists between low mentality, physical weakness, moral delinquency, and cigarette smoking. If this be true the cigarette, far from being the sign of manliness and of superior intelligence, should be regarded as the badge of the physical weakling, the mentally incompetent, and the morally unsound."

That we may have an idea of how widespread are the evils of alcoholism and smoking among our people, let us study the facts at home. Alcohol used in the Philippine Islands are of two kinds,—that imported and that produced locally. Of that imported in the form of liquors, wines and spirits, we have the following data:

From the United States alone in 1921 and 1922 we have imported alcohol in different forms, to the amount of ₱254,765 and ₱252,271, respectively, and from the United Kingdom ₱679,296 and ₱399,455, respectively, besides that imported from Japan, etc., or a total of ₱934,061 and ₱651,728.

Of the alcohol produced locally we have these different kinds:

1. The "tuba"—made from the sap of the coconut palm.
2. "Basi," from the sugar-cane juice.
3. "Bobud" or binandayan, from rice.
4. "Vino de coco" (alak) or native wine.
5. "Tuba sa niog."
6. "Tungang"—a beverage made from sugar palm.
7. Paug—nipa wine.
8. "Bais," made from honey mead.

Of the domestic distilled spirits, fermented liquors and wines removed from our factories we have these data: In 1922—16,348,896 liters or 1.3 liter per capita, with 11,500,000 population as basis.

Of tobacco we imported in the same year, to the value of ₱570,881 and ₱135,941 in the form of leaf tobacco, and of other forms, to the amount of ₱3,133,566 in 1921, and ₱1,893,443 in 1922 besides that imported from Japan and Great Britain. These of course in addition to that which is produced locally and also consumed locally. Of these we have in 1921—76,040.056 cigars and in 1922 4,492,390,866 cigars and 4,783,400 cigarettes consumed locally.

The following statements made by investigators from the Bureau of Science show how extensively these native wines are produced, and to what extent they draw upon the native capital, labor, and products, which could very well be utilized for exports, or for consumption as food providers.

"Large number of coconut palms are exclusively used for the production of the sap, which is made into an intoxicating beverage.

"These distilled beverages were all sold locally, usually within a small radius of the distilleries under the name of "*vino de coco*." In Laguna alone in 1910, 10,109 trees were employed for the production of tuba."

Another investigator makes this claim: "Sugar cane is cultivated for sugar in the southern and central islands of the Philippine group, while in the northern provinces and in the Batanes, almost all of it is utilized in the production of *basi*. The *basi* industry is now increasing rapidly. As a matter of fact, during the last 5 years the amount of sugar cane planted for this purpose has been doubled in order to meet the demand of the market. The indications are that the use of this beverage is spreading and increasing."

Here in our own Philippines, this prohibition movement has already witnessed opposition and criticism. The anti-prohibitionists in the Philippine Islands may be few and far between but you are aware of their wealth, power, and influence. There are those who allege that the movement is premature and unnecessary "for alcoholism and its attendant evils are not yet rampant." To them this is our answer: that the time to cure a disease is before it has overpowered the patient, the time to cure an evil is before it has conquered its victim. It is easier for us to recognize the enemy and perceive its conquering power at a distance, before it has taken steps to blindfold us and deadened our sensibilities that we can no longer see our way to salvation.

And yet the evil is already in our midst, working havoc, and we have seen of its victims, of its devastations and ravages—fortunes squandered, homes broken, families abandoned, crimes committed under its sway, character wrecked, and lives lost. I cannot give a better picture of the extent of the demoralization and terror it produces than that portrayed by the opinions of our legal minds as given in Villamor's "Criminality in the Philippine Islands," from which I quote the following:

"It is the unanimous opinion of the provincial fiscals that the nipa wine and fermented tuba, or sugar-cane juice called

basi constitute a principal factor in the commission of these crimes against the person. It may be stated generally that the intemperance and audacity of men on the one hand, and the timidity of the native women, on the other, are the determining causes of the commission of the crimes of abduction and rape.

"Crimes against the person, chiefly those of assault and battery and homicides, are of an endemic character in Luzon as well as in the Visayan Islands, and two-thirds of the fiscals of the Archipelago declare that local drinks such as *tuba*, coconut and nipa wine, are mainly accountable for such crimes. In the islands of Antique and Cebu, intoxication produces such a peculiar frenzy that the drinker becomes an irresponsible automaton.

"Tuba or wine is not necessarily the direct cause of the crimes aforementioned, but it is the stimulant that makes these people meet at public places, cockpits, markets, and the *bantayanes* (lookouts), that promotes the formation of a guild to carry out evil designs shamelessly, and corrupts their consciences.

"Records of the office of the prosecuting attorney of the City of Manila show that the crime of robbery and theft lead all other crimes. Assistant Attorney Zaragoza ascribed the causes of these crimes to evil companionship, intoxication, and dance halls."

In this same work Doctor Aron is quoted to make this statement: "The commission of crimes under the exciting effect of alcoholic drinks is well known and needs no comment. Strong tea and coffee and the use of tobacco may possibly be a determining factor in influencing certain individuals to the commission of crimes or rather blunting their moral sensibilities to a point where their criminal instinct takes precedence over their moral training."

In the face of all these facts we cannot remain unconcerned. These are but convincing proofs of the utmost necessity of such timely movements as this, to eradicate the evils. Let us then put up a solid front backed by all. And if this movement must triumph, let it begin in the homes and let the fight be led by the mothers, the future mothers, and the heads of families. They should be the social leaders, the family physicians to guard those that are well, to save those that are on the brink of becoming *habitués* and addicts, and to help cure those already afflicted with the vice. Let them bring home the facts and truths found thru the experiments of scientific men and proven by experience about these social evils. Let these be instilled in the minds of their children, that they may profit

by them. And outside of their homes, let them stamp the same disapproval upon the use of the alcoholic beverages and of smoking and other addictions. Let them not applaud the social practice of offering these "social cancers" at social functions, feasts, and gatherings to be there exposed, not for their cure, but for the contamination of others. When the mothers and future mothers shall have disapproved of the use of these enticing cordials, and panaceas for all ills, and eventually driven them away from their homes, they will have added another glory to their own—that of having redeemed mankind from a universal evil.

THE FUNCTIONS OF A UNIVERSITY

By PAUL MONROE, Ph.D.

[Excerpts from the Commencement Address at the Commencement Exercises of the University of the Philippines, Manila, March 17, 1925]

The first function of a university is the *preservation of knowledge*: This is its great teaching task. The university must hand on from one generation to another the sum of human knowledge achieved to date. Knowledge cannot be preserved in books. Verbal information becomes real knowledge only when put into actual life's operation. It is easy to see how the university has performed this function of the preservation of knowledge in the past. The task has become an infinitely greater one in these modern times when knowledge has grown so much more complex. Time was when each university student compassed the whole world of knowledge in the seven liberal arts. Now no student or professor can hope to master more than one small fraction of knowledge. Yet the university has this purpose: that while every student shall have a good general idea of the whole range of knowledge, only by his specializing in some one phase can knowledge as a whole be kept alive.

The second function is the *dissemination of knowledge*. It is not sufficient for society that knowledge should be kept alive in certain selected individuals. Knowledge must be disseminated broadcast if society is to persist and to develop.

Knowledge—social achievements—can only be preserved through its general dissemination. It is not sufficient that a few physicians should know how to cure diseases. People in general must know how to live by avoiding diseases. It is not sufficient that a few lawyers should be trained to make and interpret law. People in general must know how to govern themselves and how to live with others in peaceful co-operation. In other words, modern society can only survive if people in general are able to live a life of reason.

Next in importance to the preservation of knowledge and to the dissemination of knowledge comes the *application of knowledge*, its application to life, to the needs of society.

The last of these functions, though the most abstruse and most remote from life, though it calls for an order of ability and of interest that is most rare, yet usually meets with most enthusiastic approval of the members of the university staff. This function is the *increase of knowledge*. The function of research is undoubtedly the highest function. It calls for the rarest order of ability. It demands the greatest sacrifice and the closest allegiance. It is probably the most expensive to maintain. Its requirements are of the greatest.

Finally, my theme makes this argument: these four functions of the university are to be performed for society not primarily by the university faculties, but by the students which it has turned out. In a true social sense, the graduates constitute the university.

EDITORIAL

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COMMENTS ON CURRENT EVENTS

There is nothing more fundamental in preventive medicine than health education. Oft-repeated, yet not trite, is the assertion that laws may be passed, ordinances may be promulgated, but without the coöperation of an enlightened citizenry, the laws and ordinances will remain a mockery and a snare. So it is in preventive medicine. Progress is only possible if the health laws and regulations are supported by a strong "health-mindedness" of the masses. To give some illustrations, it may be permissible to ask a few questions.

What lasting good will an artesian well do for a family if in drinking the water dirty cups are dipped into it with dirty hands?

Is it sufficient to distribute tikitiki extract without insisting that our mothers fare more on well-balanced diets?

What permanent advantage will fumigation of our rooms with costly Arabic incense give us, if we allow our jars, vases, water-tanks, etc., to remain as mosquito-breeders?

The reply to these questions simply show that "sanitation itself is still to a large degree dependent upon *individual action*." More than ninety per cent of the ailments with which humanity is afflicted can be prevented, if each individual only knows the rudiments of disease-prevention. Thus we have the respiratory diseases, which can often be prevented by the adoption of the rules of hygiene and by the avoidance of "droplet" infection; the digestive disturbances, which are often attributable to Dionysian whims, to a finicky choice of food, to irregular and hurried meals; and so on up and down the gamut of diseases which are often traceable to stiff conservatism to which we have been chained.

Health education may be simple, easily understood and practiced, or it may transcend to the fundamentals of eugenics, nutrition, etc. Thus, there may be a wide gap from the mother's

diet to the permanent set of teeth of the future offspring; and, yet, it is generally admitted that the mother's nutrition often influences her child's teeth for good or evil.

The individual should first be convinced of the blessing of health; his health-conscience should then be awakened in order to stimulate his desire and enthusiasm to possess health, and he should lastly be given the necessary information in order that he may preserve and improve his health. To accomplish these three main phases of health education requires all the resources of a well-balanced health department. Every available agency should be employed, such as the public and private schools, the platform, the press, the moving-picture theatre, the radio, the fairs; the ways and means should be coördinated, systematized, and sustained, else health information may only be unconvincing, confusing, or contradictory. Experts should be employed because the appeal of well-meaning but perfunctory and ill-informed enthusiasts may only lead to false conclusions and thus spell disaster.

The methods of giving health information should be varied and adopted to the crowds or individuals being dealt with. Thus, in certain barrios the *bandillo* may be the most effective means; among certain families, the radio may be more appealing; upon certain individuals printed matter may cause lasting impressions; but whatever method is employed, personal appeals should not be neglected, as experience has shown these means to be most efficient, especially if accompanied with demonstrations and followed by example. In the words of Matthew Arnold, the best knowledge, the best ideas of the time should be diffused from one end of society to the other; knowledge should be divested of all that is harsh, uncouth, difficult, abstract, professional, exclusive; knowledge should be humanized to make it efficient outside the clique of the cultivated and learned; it should be a true source of sweetness and light.

We have made strides in public-health administration, in introducing sanitary improvements; and although there remains much to do to furnish the people an effective public health and medical service, the least that can be said is that health education may not have kept pace with our sanitary advances.

Direct instruction to parents offers to us a wide field. To arouse a greater interest in health matters, it may be well to organize different sorts of "weeks" such as Fly Week, Mosquito Week, Rat Week, Baby Week, Nutrition Week. Here prizes will be well worth their cost. In certain parts of the States, a system of schools for mothers has been organized. The importance of such schools can not be gainsaid when we consider

the fact that the lessons which we learn from our mothers during childhood are the ones which are likely to persist in our "gray-matter." Well did Victor Hugo say that "all the nuns in the world are not equal to one mother."

Next to the homes the schools furnish us a fertile soil for the propagation of health education. The instruction should be both theoretical and practical. One's school life should be permeated with sound health-information. The discoveries of modern times, the triumphs of hygiene and sanitation, the lives of Jenner, Harvey, and Pasteur are pregnant with romance; and short stories of their achievements can be made appealing to the receptive mind of the schoolchild. The school teachers should be particularly well equipped with the fundamentals of sanitation and hygiene; as likewise they should be well trained in transmitting truthful health-information, in a graphic and comprehensible way. As we once had occasion to say, if youth is the hope of the fatherland, the teacher is the hope of youth. A health authority once said that "no child should leave school without a solid grounding in the principles and practice of personal health." To this injunction we may add that the child upon leaving school should not only be mentally alert, should not only be keenly informed about the ways of health, but he should also be physically strong and vigorous. Is the health instruction now given in our schools adequate? Is it properly conducted? These are questions which should be looked into carefully and thoroly.

We should next appeal to volunteer associations, welfare clubs, insurance companies, charity associations for their full measure of support and coöperation. Their experience in the handling of crowds and communities will be especially valuable in leading public opinion in support of the Government in its efforts to enforce laws and ordinances, to introduce innovations in the ways of health and progress. Here coördination is of vital importance, and sound educational methods must be followed.

No mention has heretofore been made of the private practitioner, because we have previously had occasion to refer to him as essentially a health officer. An authority has well characterized the sound practice of the science and art of medicine as "the supreme instruction of the patient."

In this brief appeal for better health-education the various methods and means can not be gone into in detail; but we must make another reference to individual appeal. It is the "impulse" from the individual which will make sanitation effective. The law will have only a meaning and a purpose, if it is understood

and applied by the individual citizen. Information on preventive medicine should, therefore, be made promptly available to the people in a form assimilable by them. With an aroused health-conscience a close coöperation between the people and the health service is possible. Funds applied to publicity and health-education are an investment the returns of which can only be measured by individual and communal improved health. In return, with an appreciative citizenry, the needed funds and the coveted increase in the appropriations will be easier to obtain. Commercial firms spend an average of twenty per cent of their capital for advertisement and propaganda (during the first year they spend as much as sixty per cent). On this basis, the Philippine Health Service, with a yearly appropriation of ₱3,000,000 (excluding provincial and municipal funds) should be spending ₱150,000 for health-education. Given the proper surroundings and means, it can be truly said that the possession of health—with all the power and pleasure which it means—is in ourselves. After all, “the best State is that which does most for the individual and enables him to do most for himself.”

S. Y. O.

Doctor Pardo H. de Tavera, who received his medical education in Europe, who early had made important contributions to medicine, who founded the “Colegio-Médico-Farmacéutico de Filipinas,” who insistently advocated the exploitation of our local medical plants, Doctor Tavera, the writer, the author, the thinker, the philosopher, the public servant, the physician, has at last gone to make peace with his Maker.

The health officers, being essentially public servants, have a great lesson to learn from the life of a man who has dedicated the best in himself to public service. He was, indeed, a perfect combination of erudition, refinement, culture, and modesty. His scholarship, considered the highest among his contemporaries, did not in any way cause him to be bigoted. A mental aristocrat he might have been, yet he was not too idealistic to become impractical, not too theoretical to become unconvincing or incomprehensible. His mind was keen, clear, analytical; but, above all, it was free from fetters of any kind. If we learn nothing more from him than to shatter the shackles of traditionalism, conventionalism, superstition, and fanaticism, to which we have fallen heir, we shall have made the study of his life and labors profitable.

S. Y. O.

DOCTOR PARDO DE TAVERA'S CAREER ONE OF UNSTINTED PUBLIC SERVICE

[FROM PHYSICIAN TO MAN OF THE WORLD]

What was perhaps a unique funeral ceremony in the Philippines was that conducted on March 28, 1925, over the remains of Dr. Trinidad H. Pardo de Tavera, late Director of the Philippine Library and Museum, and former member of the Philippine Commission. Dead in his own room without the company of his dearest ones, his express wishes for his burial were carried out faithfully; so that no floral wreaths or waxen tapers were allowed to solemnize the death-chamber. At the San Lazaro Hospital, where his remains were incinerated, as was according to his last will, a most impressive eulogy was delivered by Senate President Quezon, in representation of the people and Government of the Philippine Islands that could not let such a devoted public servant depart without at least a feeble sigh of posthumous recognition.

President Quezon's eulogy, of the lowly physician who became a man of the world, is here reproduced:

"It is difficult to stifle the sorrow aroused in us by death. We become speechless, and we are deeply shocked or wholly overwhelmed when a person we are accustomed to see and deal with everyday leaves our company. We feel as if we had acquired the right to keep him eternally as our own, and we are hurt and aggrieved by the idea of his separation from us.

"There is, however, no reason why we should be possessed by these gloomy thought in the presence of the illustrious dead before us. None has spoken with more truth and eloquence than he of the only certainty in this life of uncertainty, which is the certainty of death. He had long felt that Death was approaching, so that it did not catch him unawares. By the subtle and facetious phrases with which his friends were assured of his good health whenever he was asked about it, it may be said that he had long ago succeeded in mocking Death.

"It was to him an anticipated event, and he only desired to pass away without pain and without suffering. He met Death in the way he desired. We ought to feel sad and have so much need of charity more for ourselves than for him, who, in the

words of a writer, 'was a true symbol of the spirit of modern learning, always restless, arduous, and anxious in his search of the positive truth of human life,' and who, according to another writer, 'was one of the Filipino luminaries accredited to the scientific world and one of the living records of our history for the last fifty years.'

ISOLATED EMINENCE

"Doctor Pardo de Tavera was like an isolated eminence in a generation whose supreme intellectual and patriotic efforts had emancipated the country's thought and guided it through its days of hardships and trials; he was, indeed, eccentric to a certain degree, but he had a definite and a positive scheme. His vast cosmopolitan knowledge, his travels of observation and study, his courteous and attentive manner, his critical scientific mind have made of him a public man, the most modern of our times, far removed from the imps of worry and sincerely a friend of democracy and of all the world.

"The ascetic expression of his face betrayed not the fact that beneath it there dwelt a spirit profoundly sensitive, dynamic, and restless, keen to the struggles of life and society around him.

"He was educated in his youth in Paris and Madrid where his contact with the refined and select society in which he lived, had inspired in him that passion for knowledge and that fondness for science which possessed him all his life and which created in him a social and a cosmopolitan spirit so exquisite and polished,—qualities which every one of us had admired in him and which have stamped themselves on the scientific and literary works that he had produced.

"There is no work of his—and nobody has produced so much in our own day—that does not display the zeal of that cosmopolitanism which belongs properly to the seer of modern times. His views, his theories, were those of a citizen of the world, and not merely those of a citizen of the Philippines. Always, he had studied Filipino affairs under the broad light of universal scientific principles, and not under the limited range of race or nationality. His fundamental ideas were universal or international in scope, and it was his ambition to introduce into his own country the best systems that exist in each type of civilization of the world. This fact explains his successes and failures in his life as a public man. This fact explains the reason why, despite the esteem in which he was held by his science and wisdom, he had detractors and enemies.

"He was a man of science and of the world at the same time. This fact gave him a well-balanced mentality, a serene and a calm temperament. It is true that many of his critical opinions were mordant and uncompromising and that his profound ironies and pleasantries seemed at times to becloud his ideas with blind sectarianism; but, at bottom, he subjected all his opinions to the cold logic of reason, without permitting himself to be swayed by passion.

A FAITHFUL SERVANT

"He had his days of glory and of power, also his fall and public oblivion. But throughout his life and under all circumstances, he served his country; and by his personal prestige and by the resourcefulness of his fecund intelligence, he led his country to the road of modern progress. His political interventions in the first years of the American régime served to restrain that unlimited power of the military for the protection of the prestige of the civil officials. Removed from public life, he dedicated himself to the writing of notable lectures and speeches, which have served as a creed of faith for a legion of followers in religion, education, politics, government, and economics, as well as a target for his opponents.

"His was a glorious life. Not a bit of talent was wasted by him in idleness or in unproductive effort. He was constantly enlarging and extending his mental horizon in order to improve his mind and to satiate his thirst for truth and his love for justice, so that he might in turn transmit and diffuse the new ideas to his country. He worked painstakingly in war and in peace; he spared no bodily pain or spiritual anxiety in teaching his countrymen how to live under the influences of new institutions which lead the way to their own stability along the path of reason and honest labor. He committed, no doubt, many errors; but he had uttered and seen great truths, and his pamphlets, lectures, and speeches on linguistics, history, sociology, education, and politics will constitute a priceless heritage that will forever serve to enrich the treasure-trove of our minds."

MISCELLANEOUS

PRUDERY OF THE PRESS

One of the chief difficulties that medical science has encountered in educating the public in the prevention and control of disease is a prudery that inhibits plain speaking about the human body and the diseases from which it may suffer.

Probably some persons can remember when it was considered indelicate to mention the words "leg" and "stomach" in polite society. Indeed, it became quite the thing to speak of "limb" and to characterize the stomach rather vaguely as the abdomen. Newspapers were not supposed to speak of such conditions as pregnancy and childbirth; a woman about to have a child was described as "in a delicate condition," or the French term "enceinte" was used. As to the periodic function of womanhood, it is even today considered the height of crudity to refer to it even in periodicals devoted to public health.

More recently, when the public became interested in the matter of rejuvenation with particular reference to the use of glandular material for this purpose, there could be found no newspaper that would mention the organs concerned by either their scientific or popular names. Such locutions as "glands," "sex glands," and "gonads" have been employed, and although "interstitial glands" refers to a definite structure within the male generative organs, the term came to be used by the newspapers as signifying the entire gland.

However, aside from the problem of instructing the public in matters anatomical and physiological, there arises the greater problem of giving the public the essential facts regarding the prevention of venereal diseases. Many newspapers refuse to use the words "venereal diseases." One syndicate of papers invariably uses the locution "vice diseases," and the large majority hold forth for "social diseases."

So far as we know, the term "gonorrhea" is never used in public print, and syphilis is more commonly referred to as a "blood disease" or "blood poisoning." Very rarely in some country newspaper, or in a metropolitan newspaper whose editor has temporarily lapsed from editorial watchfulness, there appears a death notice indicating that some member of the community has died from one of these causes. Indeed, it has been the custom to conceal the cause of death even when it was locomotor ataxia or general paralysis.

Is it surprising, then, that there are still large members of people who do not know that syphilis and gonorrhea are two distinct diseases and that in the opinion of many of the recognized authorities locomotor ataxia and general paralysis are results of syphilis? How many know that gonorrhea of the eye is responsible for the majority of cases of blindness in infancy, and that thousands of women are compelled to undergo operations within a comparatively short time after marriage because of gonor-

rhea infection of the generative tract? Yet both these diseases can be controlled if seen early and properly treated; both are preventable diseases.

It would appear to be high time that the intelligent public at least should conclude to discuss these matters openly.—HYGEIA, February, 1925.

THE FIGHT

There is no living thing that does not have some ulterior influence working for its destruction—verily it is a “struggle for existence.” But out of this struggle comes growth and virility—it is not all destruction. We develop through opposition, if the opposition is not carried so far as to destroy us. Fighting the battles of life makes us stronger—to win a victory gives us courage to go on winning more victories. Even to get defeated at times may prove a benefit—to always win would not be good for us. To have no opposition is to deteriorate and become soft. The man who refuses to cope with the opposition of Nature, who shields himself from the tempests and storms of life, who declines to fight evil in any form, becomes a weak nonentity, and in the end the elements get him. To shun is not to escape.—ORAL HEALTH, November, 1924.

YOUR CHILDREN'S EYES

Snellen's eye tests were made on 9,245 children from 6 to 16 years of age in South Carolina, Maryland, Delaware, and New York State.

Of the children of all ages, 63 per cent were found to be normal ($10/10$ or better) in both eyes, 27 per cent moderately defective ($9/10$, $7/10$, or $5/10$ in one eye and $9/10$ or better in the other), and 10 per cent had rather poor vision ($5/10$ or less) in one or both eyes.

The percentage of boys with normal vision in both eyes was slightly greater than the percentage of girls. Conversely, the percentage of girls with moderately defective vision was higher than that of boys, but the percentage with poor vision was about the same for the two sexes.

The percentage of children with normal vision ($10/10$ or better) in both eyes increased with age. The increase, however, was all in the class with vision better than $10/10$. The percentage of children with moderately defective vision decreased with age, but the percentage with markedly defective vision ($3/10$ or less in one or both eyes) increased markedly with age.

About 80 per cent of the children with vision as poor as $5/10$ or less in one or both eyes did not have glasses. The percentage of children who were wearing glasses increased with age.—U. S. PUBLIC HEALTH SERVICE.

ORAL SEPSIS AND CANCER

F. St. J. Steadman, L.R.C.P., M.R.C.S., L.D.S., has again called the attention of the medical and dental professions to the close relationship as to cause and effect existing between oral sepsis and cancer. He holds the view that cancer does not come on suddenly, but there is a long period of chronic irritation due to infection or trauma, which precedes any actual cancerous development. Of all the forms of chronic irritation from infection there are none which persist for so many years as oral sepsis, and of these there is no location which gives so great an opportunity for extensive involvement. Almost every organ of the body is directly reached from the mouth. Dr. Steadman says that over ninety per cent of cases

of cancer of the intestinal tract have oral sepsis and that over eighty per cent of all cancers in men are found in this region. About twenty-five per cent of cancers in women are found in the sexual organs—DOMINION DENTAL JOURNAL.

THE YARDSTICK OF BEAUTY—HEALTH

By HELENA LORENZ WILLIAMS

It is obvious from the number of pages in our popular magazines that are devoted to the advertising of cold creams, vanishing creams, and fat reducers, and from the amount of counter space that these articles are given in the shops, that the quest for beauty lies close to many millions of feminine hearts. The manufacture of beautifiers is not a new industry. It probably dates as far back as Eve's desire to seek favor in the eyes of Adam. And clever merchants have a way of making vanity pay.

No doubt some of the high grade and, consequently, very high-priced creams and lotions do help to improve the texture of the complexion or the luster of the hair. But it is also true that the majority of cosmetics contribute little or nothing to beauty. Some, in fact, are even harmful. In the long run the world's greatest beauty specialist is Mother Nature.

The old adage, "beauty comes from within," is as true as any bit of philosophy that has been handed down to us. That it holds good in the case of spiritual beauty most of us agree, but we forget to apply it at sight of an exquisite lithographed face which, so the poster hints, can be had by the use of the "Oriental" or "Parisian" face cream it advertises. Our good old friend the family doctor, on the other hand, will gladly tell us that a body kept in good physical trim insures shining eyes, clean skin, a good figure, and the poise of a queen. For it is a scientific fact that health creates good looks. And is there any magnetism like that of radiant, exuberant health?

For a bad complexion there is no remedy better than a carefully-regulated diet consisting of plenty of fruit, green vegetables, little meat, and a sufficient amount of starchy food for heat and energy. Among the starchy foods are potatoes, rice, spaghetti, and cereals. The trouble with many menus is that green vegetables such as spinach, kale, beet, tops, dandelion greens, and lettuce are not included. These furnish the necessary roughage to clear the blood of impurities. Fruits are truly Nature's own cathartic. Incidentally, there are some people who believe that they do not harm themselves if they eat two or three portions of a favorite but indigestible dish and take a cathartic the next morning to clear the system. They pay heavily for this. Not only must the stomach work overtime to digest the extra quantity of food, but the purgative produces an additional strain on the intestines. Heavy fatty foods and rich desserts should be avoided by the woman who would keep her skin free from eruptions. When these do not respond to a careful diet, a doctor should be consulted, because the skin trouble may be the manifestation of a more serious disturbance.

There is no blood purifier that equals the combination of fresh air and exercise. With each out-going breath the lungs expel impurities and with each inhalation a new supply is sent into the system. The more outdoor air there is in this new supply, the purer will be the blood stream. Exercise not only strengthens the muscles, but produces perspiration which, again, is Nature's method of throwing off impurities. Sleep and rest are other beautifiers. They remove shadows, brighten the eyes, and erase that

drawn, tired look more efficiently than any face, cream recipe ever formulated. Moreover, the combination of rest, exercise, and fresh air is the only one that will create that vivaciousness which is such an essential today in achieving popularity.

As to the subject of poise. So often the look of distinction which we admire in a man or woman is largely a matter of correct posture. An erect, graceful carriage, head held high, shoulders thrown back, abdomen in, and feet set firmly on the ground create not only an air of self-assurance but enable you to make the most of your clothes. Finally, the one touch which no plastic surgeon can give us is that look of cheerfulness and kindness which lies in the upward turn of the mouth and the depth of expression in the eye. Here, indeed, is the beauty that comes from within, and the woman who possesses it is fairly certain too, of having that elusive quality known as charm.

Simple healthful living does more than to beautify. It is also a great preventive of disease, for it builds up one's physical resistance so that it can withstand the onslaught of serious illness such as tuberculosis. Wider health education would insure not only a more attractive but a stronger America.—THE DENTAL SUMMARY, A JOURNAL OF PRACTICAL DENTISTRY. Vol. Forty-Four, November, 1924, Number 11.

LOUIS PASTEUR

Pasteur, thru his investigations of the prevention of bacterial disease, has become our benefactor forever. He lives with us. His great heart is the heart of a living friend, and his genius, that opened up a vast field of scientific discovery, has served as an inspiration to those who followed him, and will be an inspiration to those who are yet to follow. As a result of his researches more has been learned about human disease in the last seventy years than in the previous seventy centuries!

The career of Pasteur is the story of a great mind to which nothing was too small to merit painstaking study. His motto was, "Work, always work." He was an exceptionally keen observer, with a mind constantly alert to receive impressions, and possessed the capacity of infinite patience to follow out an idea to the end—the true test of genius.

His work lives on in the lives of the people and in the health of the world. His discoveries have made possible modern sanitation. They directly protect all civilized men from disease and the effects of injury; they have saved millions of domestic animals; they have benefited scores of industries. He is one of the world's greatest benefactors—H. N. BUNDESEN, Commissioner of Health, Chicago.

"Carry truth, life and health to all men."

"Cow's milk was meant to make beef out of calves, not humans out of babies."

Our aim should be to have healthy, happy, Filipino citizens.

"The St. Louis dentists have solved the problem (of a dental library) by making an arrangement with the St. Louis Public Library to open a

dental department—the books and periodicals to be furnished by the local dental society and to remain its property.”—ORAL HYGIENE, January, 1925.

It were better to be a bramble or a thistle, fed by the same earth as the cedar and the palm, than the fungus or the lichen of those noble trees.—VICTOR HUGO.

A natural gift is a fatal snare for the indolent.—LLOYD GEORGE.

Let opposition be high-minded, let refusal be gentle, let goodwill be uniformly evident.—EMERSON.

DOCTOR TAVERA'S SCIENTIFIC WORKS

Among Doctor Tavera's best known contributions to science are:

The Practice of Medicine in the Island of Luzon (In French, 1884), and *Medicinal Plants of the Philippines* (In Spanish, 1892).

SERVICE NEWS

DOINGS IN CULION

INDIA LEPROSY RESEARCH MAN VISITS CULION

The Culion Medical Board composed of Dr. Jose Rodriguez as chairman, and Drs. Jose Avellana Basa, H. W. Wade, and G. A. Perkins as members, reports that Dr. E. Muir, leprosy research worker of the School of Tropical Medicine, Calcutta, India, attended its meeting held on February 9, 1925, and that Doctor Muir informed the Board of leprosy situation in India. The plan of extending the leprosy work in that country is based on a system of dispensaries and of colonies in which the segregation is largely voluntary, the control of which is centralized. Only those cases not readily amenable to treatment are hospitalized. Most of the cases, however, found in India according to Doctor Muir, are of the type more amenable to treatment than that found in the Philippines. While in the Philippines tuberculosis is frequently associated with leprosy, in India it is not quite so, but, on the other hand, syphilis is a rather frequent concomitant of leprosy.

On this occasion of Doctor Muir's visit to the Colony, Doctor Wade presented to him a copy of a memorandum on the idea of a closer association of leprosy workers throughout the world. Doctor Muir expressed himself as in hearty accord with the purpose, and assured the Board of his coöperation to bring the plan to a success.

APOSTOLIC DELEGATE VISITS CULION

Culion welcomed a distinguished visitor in the person of H. E. Mons. G. Piani, Delegate of Pope Pius XI whose visit afforded great contentment to the inmates of the Colony.

COMMITTEE ON ATHLETICS CREATED

The Advisory Board of the Colony created a permanent committee for the promotion of athletics among the leper inmates.

A NEW LAUNDRY MACHINERY

The laundry machinery, having been completed installed, was tested on January 9 and 10 and was found to be in a satisfactory running condition.

PROGRESS OF CHEMICAL WORK AT CULION

The Chief Chemist of the Culion Leper Colony has rendered a complete report of the work done by the Chemical Section. Besides its routine work, it is reported that the preparation of hydroxyketo-chaulmoogric acid has been continued and the preparation of the lower members of the chaulmoogric acid series from cyclopentadiene was started.

CLANDESTINE IMPORTATION OF DRUGS

Last month it was published that an investigation regarding the clandestine use of antileprotic drugs was being conducted by the Philippine Health Service at the Culion Leper Colony.

The result of this investigation as reported by the Chief of the Colony is as follows:

"(1) According to the data obtained upon investigation, only about 1 per cent of the leper population is using clandestinely the imported drugs

for their treatment. It seems that among the various anti-leprotic drugs, the Mercado mixture prepared by Farmacia Arriola is more widely used; the so-called "Ketonina" or the unlabeled drug which is alleged to be prepared and sold by Doctor Mercado himself comes second in order in point of extent in use; and the Mercado mixture prepared by Santos and Ocampo Laboratory comes last.

"(2) Out of the total number of 49 inmates using clandestinely these drugs, 27 use the Mercado mixture prepared by the Farmacia Arriola; 17 use the so-called "Ketonina" or the unlabeled drug; 3 use the "Inyección" Anti-leprina del Doctor Mercado; and 2 use combinedly the "Ketonina" and the Mercado mixture prepared by the Farmacia Arriola.

"(3) The length of time these drugs have been used is as follows: (a) the mixture prepared by the Farmacia Arriola has been in use for about 5 years now; (b) the mixture prepared by Santos and Ocampo, 4 years; and (c) the "Ketonina" or unlabeled drug, 3 years."

MALARIA SURVEY

A malaria survey has been started in the Culion Leper Colony. So far it has been found that the vast majority of investigated cases were infected in the outlying districts although a few cases were apparently contracted in the Colony proper.

NEW INVALID DORMITORY

A new Invalid Dormitory with a capacity of 25 beds has been inaugurated.

RESEARCH WORK

The following investigations are being conducted in the Culion Leper Colony:

1. The Fecundity of the Lepers.—By Dr. FELIX VELASCO.
 2. Trials with New Drugs.—By Drs. B. DE VERA and FELIX VELASCO.
 3. The Effects on the Ulcer of Anti-leprotic Drugs Taken by Mouth.—By Drs. GUILLERMO FERNANDEZ and CATALINO NICOLAS.
 4. The Treatment of Lepra Reaction.—By Drs. CATALINO NICOLAS and LUIS DELGADO.
 5. Malaria Among Lepers.—By Dr. D. JUGUETA and Dr. ELISA ROXAS-PINEDA.
 6. Demonstration of *B. Leprae* in Paraffin Sections of Leprosy Tissues.—By Dr. H. W. WADE.
 7. The Khan Reaction.—By Dr. ELOY V. PINEDA.
 8. The Inhibitory Effect of Serum on the Wasserman Reaction.—By Dr. ELOY V. PINEDA.
 9. The presence of *B. Lepræ* in the Placenta.—By Dr. ELOY V. PINEDA.
- Dr. H. W. Wade reports that the weekly clinical staff conference, an innovation introduced by Dr. Casimiro Lara and which is being continued by Dr. Jose Rodriguez, is productive of good results.

SAN LAZARO HOSPITAL PRAISED BY ARMY MEDICAL MEN

A group of United States Army Medical officers from McKinley and Stotsenburg visited the Leper Wards of San Lazaro Hospital during the month. The following excerpts from a letter received from such visitors is worthy of note:

"The wards, kitchens, dining room, the patients and their clothing were models of cleanliness of which any institution might well be proud.

"Naturally the crowding of so many in the amount of floor space available seemed strange to us, as in the Army anything less than 40 square feet per person will not be permitted. But we can readily understand why this condition exists at San Lazaro, namely, to provide the proper amount of space would require liberal appropriations for construction, which are not forthcoming, and you have chosen the lesser of two evils, either to crowd or to let the unfortunate victims roam at large without the benefits of treatment.

"Handicapped as you are in this respect, the greater is our admiration for the work being done for leper patients."

COTABATO PUBLIC HOSPITAL RENDERED EFFICIENT SERVICE

On February 9 two Moro juramentados ran amuck killing two and wounding seven persons including a boy seven years old. The Hospital rendered immediate service. One of the juramentados was shot and wounded and is actually confined at the Cotabato Hospital.

REPORT OF THE DIVISION OF METROPOLITAN SANITATION

During the month of February, 1,398 sanitary inspections were made. The places inspected consisted of public buildings, slaughter houses, tenement houses, stables, amusement places, restaurants, bakeries, etc.

Sanitary orders for the insanitary condition of houses, premises, etc., were issued totaling 384 in all during the month.

Enforcement of food regulations were strictly attended to resulting in the confiscation of several hundred kilos of food products that were unfit for human consumption.

To street peddlers 180 sanitary permits were issued after they have been thoroughly examined physically and found free from any communicable disease.

The disinfecting brigade performed 9,350 disinfections.

The antiplague campaign has been continued. None of the rats caught were found positive for *B. pestis*.

The welfare clinics attended 398 consultations.

The Health Stations sterilized 14,358 liters of milk during the month.

A total of 571 sanitary permits were issued by the License Section. The number of physical examinations performed were 98.

During the month one municipal ordinance for the better control of foods was passed. Eight memorandum orders were issued by the Division.

The crude mortality rate for the month of February was lower than that of the preceding month. Malate registered the highest mortality rate and Port Area the lowest. The infant mortality was highest in Quiapo and San Nicolas.

The typhoid fever situation has not changed from that of the preceding month. The number of cases for the month amounted to 58 with 13 deaths as against 59 cases with 12 deaths for the preceding month.

DOCTOR OROSA ADDRESSES THE GRADUATES IN NURSING OF MARY CHILES HOSPITAL

The following are quoted from his address:

* * * * *

"I may be departing from the usual exhortations proper for this occasion when I invite attention to two things which have come to my

notice; namely, the question of civil-service status and the apparent lack of professional fellowship among nurses coming from different training schools. Up to now graduate nurses have to pass the registration examination before the Board of Nurses Examiners whose members are appointed by the Secretary of the Interior. This examination is necessary in order that the graduates may legally practice their profession. The Board passes upon the curricula of the schools which must fill a certain minimum requirement. The graduates of a school not recognized by the Board are not allowed to take the registration examination. And yet the registered graduates of certain schools, upon entering the Government service, are given civil-service or permanent status with privileges of vacation and accrued leaves, while those of other schools are not given the same status or privileges unless they pass another examination conducted by the Civil Service.

"Time was when the medical graduates of the University of the Philippines were exempted from the registration examination, but this privilege was abolished; so that all those persons desiring to practice medicine in the Philippines have to pass the registration examination without considering the schools they come from.

"I do believe that for the sake of fairness and equity, all the registered graduates from all the schools recognized by the Board, precedent to their enjoying civil-service privileges, should either be exempted from or be required to pass another examination without any exception, discrimination, favor, or prejudice. If a school does not meet the requirements laid down by the Board, the logical thing to do is to withhold the recognition until the requirements are complied with.

"Some of us have observed that nurses working in one institution or office, if coming from different schools, sometimes look upon one another with unfriendliness or even despire. One set carries that feeling or prejudice or superiority over another to the detriment of the harmony, coöperation, and efficiency which are so essential in an office or institution. When we consider that they belong to the same profession, that they subscribe to the same creed of faith, that they follow the same noble and humanitarian pursuit,—when we consider that such relations of indifference or unfriendliness may mean unnecessary suffering or the untimely death of a patient, we cannot fail to condemn the attitude of those few who would convert friendly rivalry to destructive competition, or who would sacrifice service for pride.

* * * * *

"You will soon have to shift for yourselves in strenuous professional life, by often depending upon yourselves alone. Great life problems are ahead. Very likely alone in the midst of labor, the heart will be your inspirer and conscience your guide. I sincerely congratulate you upon this significant transition in your life; and may self-sacrifice ever be your purpose, the spirit of service your beacon-light, and patriotism your impelling motive."

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of February, 1925)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1925¹ BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,128
Chinese.....	17,356
All others.....	2,188
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,349
No. 3, Paco.....	78,536
Total.....	312,138

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,464
No. 6, San Miguel.....	4,324
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,508
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

FEBRUARY, 1925

Date	Pres- sure ¹ mean	Temperature					
		In shade ²				Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.
							8 a. m. mean 2 p. m. mean
1-10.....	mm. 761.30	°C. 25.1	°C. 32.0	10	°C. 19.8	5	°C. 27.7 °C. 28.0
11-20.....	58.78	25.4	31.3	17, 18	20.7	13	27.6 28.0
21-28.....	59.53	25.7	32.9	25	21.8	26, 28	28.2 28.5

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	75.4	87.0	8	70.0	3
11-20.....	77.3	83.2	20	72.8	15
21-28.....	73.3	76.5	26	68.5	22

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	NE quad.	1,229.5	179.0	2	37.2	4.9	10
11-20.....	NE	1,579.5	214.0	14	36.9	5.2	19
21-28.....	SE	1,232.5	249.0	27	36.1	5.8	26

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	40 10	8 05	5	7.4	3
11-20.....	37 10	8 35	18	5.5	4
21-28.....	30 30	9 25	25	5.1	1

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	4	2	6	24.97
Filipinos.....	550	474	1,024	46.72
Spaniards.....	2	1	3	20.02
Other Europeans.....	3		3	34.75
Chinese.....	20	19	39	28.49
All others.....	2	5	7	41.77
Total and average.....	581	501	1,082	45.22

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instrument mounted in the observatory park, 1.5 meters above ground.

BIRTHS BY DISTRICTS

Districts	Legitimates			Illegitimates			Grand total	Annual birth rates per 1,000
	Male	Female	Total	Male	Female	Total		
No. I, MALABIC:								
1. Tondo.....	141	128	269	4	8	12	281	46.60
2. San Nicolas.....	39	42	81		4	4	85	39.62
3. Binondo.....	18	19	37	2		2	39	29.63
Total.....	198	189	387	6	12	18	405	42.52
No. II, SAMPALOC:								
4. Santa Cruz.....	74	69	143	5	1	6	149	38.19
5. Quiapo.....	20	13	33		1	1	34	28.70
6. San Miguel.....	11	11	22	1		1	23	69.45
7. Sampaloc.....	162	79	181	7	7	14	195	65.77
Total.....	207	172	379	13	9	22	401	47.84
No. III, PACO:								
8. Port Area.....	3	2	5				5	13.93
9. Intramuros.....	27	22	49	1		1	50	45.77
10. Ermita.....	22	13	35	1		1	36	29.87
11. Malate.....	35	31	66	1	1	2	68	55.28
12. Paco.....	37	31	68	7	3	10	78	65.13
13. Pandacan.....	7	8	15				15	34.27
14. Santa Ana.....	14	8	22	2		2	24	48.14
Total.....	145	115	260	12	4	16	276	45.84
Grand total.....	550	476	1,026	31	25	56	1,082	45.22

Attended by physicians, living, 193; stillbirths, 25.

Attended by midwife, living, 162; stillbirths, 1.

Attended by family, living, 727; stillbirths, 17.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....				
Filipinos.....	256	222	478	21.81
Spaniards.....	3	2	5	33.86
Other Europeans.....				
Chinese.....	17	5	22	16.07
All others.....	5		5	29.84
Total and average.....	281	229	510	21.31

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married.....	97	66
Divorced.....		
Widowed.....	22	49
Single.....	223	140
Condition not stated.....		
Total.....	342	255
Grand total.....	597	

Stillbirths.....	43
Number of deaths with medical attendance.....	325
Number of deaths without medical attendance.....	272

DEATHS BY DISTRICTS AMONG RESIDENTS IN THE CITY OF MANILA

(Stillbirths not included)

Districts	Deaths	Annual death rates per 1,000
No. I, MELBIC:		
1. Tondo.....	189	23.05
2. San Nicolas.....	36	16.53
3. Binondo.....	16	12.15
Total.....	191	20.05
No. II, SAMPALOC:		
4. Santa Cruz.....	87	22.30
5. Quiapo.....	22	18.57
6. San Miguel.....	6	18.12
7. Sampaloc.....	96	32.38
Total.....	211	25.17
No. III, PACO:		
8. Port Area.....	16	14.65
9. Intramuros.....	18	14.93
10. Ermita.....	42	34.14
11. Malate.....	16	13.36
12. Paco.....	9	20.56
13. Pandacan.....	7	14.04
14. Santa Ana.....		
Total.....	108	17.94
Grand total.....	510	21.31

DEATHS BY AGES IN THE CITY OF MANILA

(Stillbirths not included)

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	105	74	9	3	191
1 year plus.....	26	17	5	2	50
2 years plus.....	8	7	1	1	17
3 years plus.....	3	4	1	1	9
4 years plus.....		2			2
5 to 9 years.....	5	9	2	2	18
10 to 14 years.....	7	1	2	1	11
15 to 19 years.....	7	4	3	1	15
20 to 24 years.....	10	13	5	1	29
25 to 29 years.....	18	9	1	2	30
30 to 34 years.....	5	9	3		17
35 to 39 years.....	11	9	7	3	30
40 to 44 years.....	9	7	5	3	24
45 to 49 years.....	5	5	7	1	18
50 to 54 years.....	18	9	5	2	34
55 to 59 years.....	5	7			12
60 to 64 years.....	13	8	1	2	24
65 to 69 years.....	11	7	1		19
70 to 74 years.....	7	2	1	1	11
75 to 79 years.....	4	5	1		10
80 to 84 years.....		8	1		9
85 to 89 years.....	1	4			5
90 to 94 years.....	1	5			6
95 to 99 years.....	1	3			4
100 years and over.....	1	1			2
Age not stated.....					
Total.....	281	229	61	26	597

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH,
AND MUNICIPAL DISTRICTS—Continued

Age groups	Health districts													Grand total			
	No. 3, Paco																
	No. 8, Port Area		No. 9, Intramuros		No. 10, Ermita		No. 11, Malate		No. 12, Paco		No. 13, Pandacan		No. 14, Santa Ana				
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male		Female		
Under 1 year.....			2	6	6	2	10	8	4	4	3	1	1	105	74	179	
1 year plus.....							1	1	2		1			26	17	43	
2 years plus.....				1		1	1	1	1	2			1	8	7	15	
3 years plus.....								1	1		1			3	4	7	
4 years plus.....															2	2	
5 to 9 years.....						2								5	9	14	
10 to 14 years.....														7	1	8	
15 to 19 years.....								1	2					11	4	15	
20 to 24 years.....								1	1					10	13	23	
25 to 29 years.....										1				18	9	27	
30 to 34 years.....					1			1	1					5	9	14	
35 to 39 years.....								1	3					11	7	18	
40 to 44 years.....			1		1			1	1	1			1	19	9	28	
45 to 49 years.....					1			1	1					5	5	10	
50 to 54 years.....								1	1	1				18	9	27	
55 to 59 years.....			1									2		11	13	24	
60 to 64 years.....					2			2	1	1				7	7	14	
65 to 69 years.....								2						4	5	9	
70 to 74 years.....													1		8	12	
75 to 79 years.....															1	1	
80 to 84 years.....						1			1					1	4	5	
85 to 89 years.....														1	6	6	
90 to 94 years.....									1					1	3	4	
95 to 99 years.....														1	1	2	
100 years and over.....										1						1	
Age not stated.....																	
Total.....			4	12	12	6	20	22	9	7	8	1	4	3	281	229	510
Grand total.....			16	18	18	42	42	16	7	9	7				510		

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
165-208	<i>XIV. External causes</i>													
166	Suicide by corrosive substances.....				1									1
170	Suicide by firearms.....			1										1
179	Accidental burns (conflagration excepted).....			1	2									3
182	Accidental drowning.....			1						2				3
188	Accidental traumatism by other crushing (vehicles, railways, landlides, etc.): f. Injuries by other vehicles.....			1										1
189	Injuries by animals (not poisoning).....				1									1
204-206	<i>XV. Ill-defined diseases</i>													
205	Cause of death not specified or ill defined: a. Ill defined.....			1	1									2
	Total.....	256	222	3	2					17	5	5		510
	Grand total.....	478		5						22		5		

177 Diseases of the nervous system and of the organs of special sense

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough.....					1	1
11. Influenza:						
a. With pulmonary complications specified.....					3	3
b. Without pulmonary complications specified.....					1	1
21. Erysipelas.....					1	1
24. Meningococcus meningitis.....					2	2
29. Tetanus:						
a. Umbilical.....				5		5
38. Syphilis.....	1			1		2
55. Beriberi:						
a. Infants.....				3	41	44
69. Other general diseases.....					1	1
71. Meningitis:						
a. Simple meningitis.....					2	2
99. Bronchitis:						
a. Acute.....					27	27
b. Chronic.....					2	2
100. Bronchopneumonia:						
a. Bronchopneumonia.....				1	16	17
b. Capillary bronchitis.....					2	2
101. Pneumonia:						
a. Lobar.....					2	2
102. Pleurisy.....					1	1
103. Congestion and hemorrhagic infarct of the lung.....				1		1
113. Diarrhea and enteritis.....					13	13
124. Other diseases of the liver.....					1	1
128. Acute nephritis.....					2	2
153. Acute abscess.....					1	1
160. Congenital debility, icterus, and sclerema.....						
161. Premature birth; Injury at birth:	14			19	10	43
a. Premature birth (not still-born).....	4		1	3	2	10
b. Injury at birth (not still-born).....			1			1
162. Other diseases peculiar to early infancy.....				3	2	5
205. Cause of death not specified or ill defined:						
a. Ill defined.....					1	1
Total.....	19		2	36	134	191

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	17,668
Number of rats caught by spring traps.....	3,007
Number of cage-wire traps set.....	672
Number of rats caught by cage-wire traps.....	14
Number and kind of baits (coconuts).....	18,340
Number of poison portions placed.....	13,188
Number of rats found poisoned.....	415
Number of rats killed by clubs and other weapons.....	1,060
Number of rats found dead from other causes.....	620
Total number of rats otherwise caught, found dead, or killed.....	5,116
Total number of rats sent to the laboratory for examination.....	5,116
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF FEBRUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths				
I.	No. 1.	3	3	1						3	3	1	4	3
	No. 2.	3	1	3				1		3	1	4	7	7
	No. 3.	1								1			2	1
	No. 4.	4	2	3				1	1	4	2	1	8	3
II.	No. 5.	2	2	1						2	2	1	3	3
	No. 6.	1								2	1		3	3
	No. 7.	7	2	3						7	2	3	10	2
	No. 8.													
III.	No. 9.	1		3						1		3	4	
	No. 10.													
	No. 11.	4		2		1				4		2	6	1
	No. 12.	1		1						1		1	2	
Transients	No. 13.	1		1						1			2	
	No. 14.													
	No. 14.	12	5	6		1				12	5	6	18	6
	Total	40	15	24		3		3	1	40	15	27	67	19

REMARKS:

Total cases reported within the month in the City of Manila	79
Resident cases	56
Nonresident cases	23
Foreign cases	0
Total deaths reported within the month in the City of Manila	19
Deaths among resident cases	13
Deaths among nonresident cases	6
Deaths among foreign cases	0
Total cases confirmed as typhoid fever	67
By autopsy	0
By blood culture	4
By widal reaction	2
By urine examination	0
By feces examination	0
By clinical symptoms	61
Cases confirmed as paratyphoid fever	1
Total cases not confirmed	11

Typhoid Carrier—None

DYSENTERIES REPORTED DURING THE MONTH OF FEBRUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.....	No. 1.....				1	1	1	1	1	1	1	1	2	2
	No. 2.....												1	1
	No. 3.....				1					3	1		3	1
	No. 4.....	2			1	1								
II.....	No. 5.....									1			1	
	No. 6.....	1												
	No. 7.....													
	No. 8.....													
III.....	No. 9.....													
	No. 10.....			1	1					1	1	1	1	1
	No. 11.....					1	1							
	No. 12.....													
	No. 13.....													
	No. 14.....	3	1							3	1		3	1
Transients.....														
Total.....	6	1	1	1	4	3	1	1	10	4	2	2	12	6

REMARKS:

Total cases reported within the month in the City of Manila.....

13

Resident cases.....

Nonresident cases.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases.....

Deaths among nonresident cases.....

Total cases not confirmed as dysentery.....

Dysentery Carrier—None

CHOLERA REPORTED DURING THE MONTH OF FEBRUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home				Total				Grand total	
	Male			Female			Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....															
	No. 2.....															
	No. 3.....															
	No. 4.....															
II.....	No. 5.....															
	No. 6.....															
	No. 7.....															
	No. 8.....															
	No. 9.....															
III.....	No. 10.....															
	No. 11.....															
	No. 12.....															
	No. 13.....															
	No. 14.....															
	Transients.....															
	Total.....															

REMARKS:

Total cases reported within the month in the City of Manila

1

Resident cases.....

1

Nonresident cases.....

0

Foreign cases.....

0

Resident cases not confirmed as cholera.....

1

Non-resident cases not confirmed as cholera.....

0

Total deaths reported within the month in the City of Manila.....

0

Deaths among resident cases confirmed as cholera.....

0

Deaths among nonresident cases confirmed as cholera.....

0

Cholera Carriers—8

DIPHTHERIA REPORTED DURING THE MONTH OF FEBRUARY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....														
No. 1.....														
No. 2.....														
No. 3.....														
No. 4.....														
II.....														
No. 5.....														
No. 6.....														
No. 7.....														
No. 8.....														
No. 9.....														
No. 10.....														
No. 11.....														
No. 12.....														
No. 13.....														
No. 14.....		1									1		1	
Transients.....														
Total.....				1							1		1	1

REMARKS:

Total cases reported within the month in the City of Manila

5

Resident cases.....

3

Nonresident cases.....

2

Resident cases not confirmed as diphtheria.....

3

Nonresident cases not confirmed as diphtheria.....

1

Total deaths reported within the month in the City of Manila

0

Deaths among resident cases confirmed as diphtheria.....

0

Deaths among resident cases not confirmed as diphtheria.....

0

Deaths among nonresident cases confirmed as diphtheria.....

0

Diphtheria Carrier—None

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF FEBRUARY, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	9	3	2	2
Varicella.....	14	9		
Varioloid.....				
Smallpox.....				
Measles.....	6	3		
Whooping cough.....	2		1	
Influenza.....	18	11	1	6
Bubonic plague.....				
Encephalitis lethargica.....	1	1		1
Meningitis cerebrospinal epidemic.....	2		2	
Pulmonary tuberculosis.....	107	76	54	44
Tuberculosis of all forms.....	5	4	6	4
Beriberi, infantile.....	26	17	26	17
Beriberi, adult.....	1		1	

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	8		2	
Varicella.....	2	3		
Varioloid.....				
Smallpox.....				
Measles.....	1	1	1	
Whooping cough.....				
Influenza.....	2	2	1	
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....		2		2
Pulmonary tuberculosis.....	17	4	8	2
Tuberculosis of all forms.....	1		1	
Beriberi, infantile.....	1		1	
Beriberi, adult.....				

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR
THE MONTH OF FEBRUARY, 1925**

Sera and vaccines	On hand February 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remain- ing at the end of the month
Anti-diphtheric serum (units).....	1,105,000		1,105,000	285,000	820,000
Anti-dysenteric serum (ampoules).....	71	100	171	100	71
Anti-tetanic serum (units).....	300,000	146,000	446,000	446,000	
Cholera vaccine (c. c.).....	86,590		86,590	9,300	77,290
Dried vaccine virus (units).....	3,000	101,900	104,900	44,000	60,900
Fresh vaccine virus (units).....	98,000	200,000	298,000	231,300	66,700
Gonococcus vaccine (ampoules).....		150	150	150	
Mixed cholera-typhoid vaccine (s. c.).....	40,380	61,300	101,680	69,000	32,680
Normal horse serum (ampoules).....		50	50	50	
Typhoid vaccine (c. c.).....	7,260	18,000	25,260	9,900	15,360

**REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING
THE MONTH OF FEBRUARY, 1925**

Health districts	Municipal districts	Total vaccina- tions	Vaccinations		
			Previously vaccinated		
			Never	Success- fully	Unsuc- cessfully
No. 1	Tondo	2,887	318	2,511	58
	San Nicolas	1,957	164	1,702	91
	Binondo	1,155	135	858	162
	Santa Cruz	2,177	61	1,723	393
No. 2	Quiapo	241	59	131	51
	San Miguel	57	57		
	Sampaloc	1,355	74	1,062	219
	Port Area				
No. 3	Intramuros	1,219	96	1,094	29
	Ermita	298	37	253	8
	Malate	109	31	72	6
	Paco	63	63		
	Pandacan	162	8	149	5
	Santa Ana	20	20		
Total		11,700	1,123	9,555	1,022

Health districts	Municipal districts	Inspection of persons vaccinated							
		Under one year		1 to 4 years		5 years and over		Total	
		Positive	Nega- tive	Positive	Nega- tive	Positive	Nega- tive	Positive	Nega- tive
No. 1	Tondo	279	6	30	6	117	1,079	426	1,091
	San Nicolas	146		14	5	3	800	163	305
	Binondo	132	3	10	6	76	741	218	750
	Santa Cruz	32		14	4	555	958	601	962
No. 2	Quiapo	65						65	
	San Miguel	33	1					33	1
	Sampaloc	96	1		16	126	739	222	756
	Port Area								
No. 3	Intramuros	99	2	3	5	1	3	103	10
	Ermita	43	2					43	2
	Malate	13	1	1				14	1
	Paco	53		3	3	1	2	57	5
	Pandacan	7	2					7	2
	Santa Ana	18						18	
Total		1,016	18	75	45	879	3,822	1,970	3,885

Vaccine virus:

Received	21,400
Used	17,400
Remained	4,000

Health district	Municipal districts	Number of injections made in—										Total number of injections							
		Adults						Children				First		Second		Third			
		First injections		Second injections		Third injections		First injections		Second injections								Third injections	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.		
No. 1.	Tondo.	137	1,041	55	936	34	867	25	418	38	397	27	314	162	1,459	93	1,333	61	1,181
	San Nicolas.	218	684	131	615	112	579	163	227	53	136	71	153	381	911	184	751	183	732
	Binondo.	169	1,189	123	1,008	112	412	86	128	72	98	57	72	255	1,317	195	1,107	169	484
	Santa Cruz.	211	426	119	892	96	348	79	311	55	288	41	217	290	737	174	680	137	565
No. 2.	Quisapo.	6	77	4	68	3	59	14	699	11	650	7	573	20	776	15	718	10	632
	San Miguel.	13	371	9	323	5	298	12	311	7	209	4	182	28	682	16	532	9	480
	Sampaloc.	99	585	81	492	69	401	17	267	11	213	8	186	116	852	92	705	77	587
	Port Area.	51	199	43	155	31	117	33	91	22	78	16	64	84	290	65	233	47	181
No. 3.	Intramuros.	129	303	97	281	77	213	68	113	51	93	44	79	197	416	148	374	121	292
	Ermita.	48	450	31	427	22	391	13	187	69	44	11	58	61	637	38	496	26	434
	Malate.	177	329	112	276	88	215	28	86	19	72	11	43	205	415	131	348	99	273
	Paro.	75	356	69	342	45	275	33	267	21	253	14	240	108	698	90	595	59	515
Total.	Pandacan.	18	366	13	284	8	215	7	136	4	111	1	89	25	502	17	395	9	304
	Santa Ana.	61	184	56	128	42	97	22	161	17	134	12	143	83	345	73	262	54	240
Total.		1,412	6,560	943	5,727	744	4,487	600	3,462	388	2,802	317	2,413	2,012	9,962	1,331	8,529	1,061	6,900

¹ Mixed typhoid-and-cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V, in persons never vaccinated before; R, revaccinations.

CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925 ¹

Provinces	Number of injections made in—												Total number of injections	
	Males						Females							
	First injections		Second injections		Third injections		First injections		Second injections		Third injections			
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.		
Albay	534	462	139	31			532	416	173	35			1,944	378
Bataan.....														
Bulacan.....														
Camari nes Sur.....													124	159
Catanduanes.....	2	65	2	88			1	56	1	68			1,041	55
Cebu	211	349	10	18			172	318	8	19				
Ilocos Sur.....														
Iloilo														
La Union.....														
Leyte.....														
Marinduque.....														
Masbate.....														
Nueva Ecija.....														
Nueva Vizcaya.....														
Oriental Negros.....														
Pampanga.....													55	48
Pangasinan.....	5	20	5	17			5	25	4	22				
Sulu.....														
Tayabas.....														
Total.....	752	887	156	154			710	815	186	144			3,161	640

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

Provinces	Number of injections made in—										Total number of injections				
	Males					Females									
	First injections		Second injections		Third injections		First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	First	Second	Third
Albay.....															
Bataan.....	252	86	234	79	217	72	275	87	261	79	245	68	700	653	602
Bulacan.....															
Camarines Sur.....															
Catanduanes.....	21	1	1	1			2	2					26	2	
Cebu.....															
Ilocos Sur.....	10	6					15	2					33		
Iloilo.....															
La Union.....							11	20					73	2	
Leyte.....	8	34	2												
Marinduque.....															
Maabate.....															
Nueva Ecija.....															
Nueva Vizcaya.....															
Oriental Negros.....															
Pampanga.....															
Pangasinan.....	246	312	118	227			221	293	166	196			1,072	707	
Sulu.....															
Tayabas.....															
Total.....	537	439	355	307	217	72	524	404	427	275	245	68	1,904	1,364	602

¹ Incomplete; reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age.

CONSOLIDATED REPORTS OF MIXED (TYPHOID-AND-CHOLERA) VACCINATIONS RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹

Provinces	Number of injections made in—												Total number of injections	
	Males						Females							
	First injections		Second injections		Third injections		First injections		Second injections		Third injections			
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.		
Albay.....			9				1		6				1	15
Bataan.....	120	9	50				82	2	53				213	106
Bulacan.....	169	85	112	57			206	77	127	47			531	343
Camarines Sur.....	156	72	8	41			102	49	4	23			379	76
Catanduanes.....														
Cebu.....	1,222	839	342	137			1,039	637	341	134			3,737	955
Ilocos Sur.....	305	86	277	71			272	104	184	121			767	653
Iloilo.....	26	19	25	17			23	12	23	12			80	77
La Union.....	314	48	102	116			223	65	55	87			650	360
Leyte.....	46		48				40		172				86	220
Marinduque.....	159	297	121	171			169	283	92	135			908	519
Masbate.....	4		67						33				4	100
Nueva Ecija.....	31	4	33	8			50	8	51	20			93	112
Nueva Vizcaya.....	53	142	53	142			30	171	30	171			396	396
Oriental Negros.....														
Pampanga.....	1,974	2,509	1,223	2,148			2,548	1,986	1,481	1,547			9,017	6,399
Pangasinan.....	246	312	118	227			221	293	166	196			1,072	707
Sulu.....	21		17				3		2				24	19
Tayabas.....	249	132	83	79			159	17	35	8			557	205
Total.....	5,095	4,554	2,689	3,214			5,162	3,704	2,855	2,504			18,515	11,262

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Total vaccina- tions	Vaccinations		
		Never	Success- fully	Unsuccess- fully
Agusan.....	94	73	6	15
Albay.....	4,710	1,494	1,217	1,999
Batangas.....	3,901	1,332	664	1,905
Bohol.....	2,003	377	876	750
Bulacan.....	9,270	3,325	2,931	3,014
Cagayan.....	3,705	945	1,071	1,689
Camarines Sur.....	5,140	584	3,264	1,292
Capiz.....	3,507	1,270	1,091	1,146
Catanduanes.....	1,451	404	274	773
Cavite.....	5,732	845	3,748	1,139
Cebu.....	12,473	2,995	4,181	5,297
Culion Leper Colony.....	828	27	220	81
Iloilo.....	1,044	632	60	352
Isabela.....	1,317	364	442	511
Laguna.....	1,093	421	245	427
La Union.....	1,986	507	792	687
Marinduque.....	606	138	274	194
Masbate.....	964	351	309	304
Nueva Ecija.....	2,923	1,752	500	671
Occidental Negros.....	3,157	1,836	251	1,070
Oriental Negros.....	1,705	442	522	741
Pampanga.....	2,953	958	930	1,065
Pangasinan.....	251	67	14	170
Sulu.....	776	415	122	239
Tarlac.....	2,639	646	1,459	534
Tayabas.....	1,533	526	472	535
Zamboanga.....	1,503	753	132	618
Total.....	76,764	23,479	26,067	27,218

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
Agusan.....	48	25	13	4	2	2	63	31
Albay.....	371	148	419	194	841	490	1,631	832
Batangas.....	624	86	814	252	855	661	2,293	999
Bohol.....	61	23	276	114	525	642	862	779
Bulacan.....	1,503	156	2,001	430	2,285	810	5,789	1,396
Cagayan.....	421	57	783	97	1,296	469	2,500	623
Camarines Sur.....	234	52	420	148	2,598	1,378	3,252	1,573
Capiz.....	400	66	603	242	1,199	432	2,202	740
Catanduanes.....	176	77	164	95	66	78	406	250
Cavite.....	582	34	1,412	125	2,989	531	4,983	690
Cebu.....	843	467	1,159	411	1,643	1,675	3,645	2,553
Culion Leper Colony.....	19	6	8	3	173	119	200	128
Iloilo.....	112	27	232	70	214	113	558	210
Isabela.....	37	19	54	54	316	256	407	329
Laguna.....	182	57	247	72	262	256	691	385
La Union.....	230	50	392	210	374	390	996	650
Marinduque.....	67	25	41	20	57	151	165	196
Masbate.....	40	34	75	57	95	84	210	175
Nueva Ecija.....	620	107	881	213	368	233	1,869	553
Occidental Negros.....	731	146	736	252	584	174	2,051	572
Oriental Negros.....	179	86	271	164	426	225	876	475
Pampanga.....	381	66	218	67	594	751	1,193	884
Pangasinan.....	81	11	107	28	60	83	248	122
Sulu.....	49	16	157	82	247	155	453	258
Tarlac.....	326	40	261	110	643	947	1,230	1,097
Tayabas.....	175	50	241	80	447	360	863	490
Zamboanga.....	180	94	218	99	219	125	612	318
Total.....	8,672	2,025	12,198	3,693	19,378	11,585	40,248	17,803

¹ Incomplete; reports from other provinces not yet received.

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF FEBRUARY, 1925**

(No case and no death reported during the month.)

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF FEBRUARY, 1925**

(No case and no death reported during the month.)

**OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF
MANILA, DURING THE MONTH OF FEBRUARY, 1925**

	Health districts—			
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	Total
Orders pending February 1, 1925:				
Minor.....	86	56	34	176
Sewer.....	26	50	3	79
Vacating.....	11	16	17	44
Filling.....	10	24	7	41
Total.....	133	146	61	340
Orders issued during the month:				
Minor.....	8	5	9	22
Sewer.....	1	2	10	13
Vacating.....				
Filling.....				
Total.....	9	7	19	35
Orders completed during the month:				
Minor.....	5	14	7	26
Sewer.....	1			1
Vacating.....		1		1
Filling.....				
Total.....	6	15	7	28
Orders cancelled during the month:				
Minor.....		1		1
Sewer.....				
Vacating.....		1		1
Filling.....				
Total.....		2		2
Orders pending February 28, 1925:				
Minor.....	89	46	36	171
Sewer.....	26	52	13	91
Vacating.....	11	14	17	42
Filling.....	10	24	7	41
Total.....	136	136	73	345
Strong-material plans approved:				
New buildings including additions and alterations.....	20	37	28	85
Permits for minor building construction:				
Approved.....	32	58	26	116
Disapproved.....	19	8	6	33
New buildings completed.....	4	18	10	32
Permits for light and mixed-material construction:				
Approved.....	25	41	11	77
Disapproved.....	9	8	3	20
Prosecutions:				
Convictions.....	1			1
Dismissals.....	1	1	1	3
Amount of fines.....	P10			P10
Plumbing permits issued.....	48	71	44	163
Plumbing projects completed.....	34	30	27	91
Premises connected to the sanitary sewer to January 31, 1924.....	2,408	4,091	452	6,951
Premises connected during the month.....	2	1	5	8
Total.....	2,410	4,092	457	6,959

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

APRIL, 1925

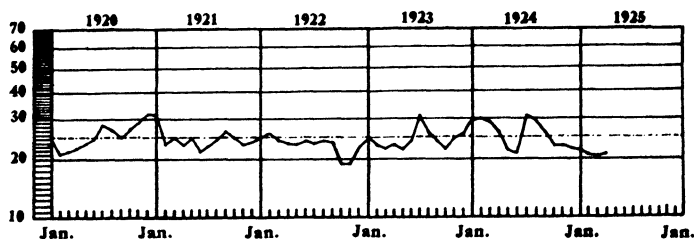
No. 4

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.--U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

APRIL, 1925

No. 4

**A PRELIMINARY REPORT ON THE CONTROL OF
TRACHOMA IN THE PHILIPPINE ISLANDS¹**

By

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Philippine General Hospital

and

Drs. RAFAEL VILLAFRANCA and SEVERINA LUNA-OROSA
Philippine Health Service

Trachoma is an old disease, prevalent even during the biblical age, and dreaded on account of its serious complications which usually terminated in blindness. It might have been long in existence in the Philippines, but there are no available authentic data to show its presence or absence then.

The statistics of the last ten years, however, show that trachoma was and is prevalent among school children, and was steadily on the increase till recently. It was 0.86 per cent in 1913, and in 1923 it rose to 4.71 per cent. Statistics of cases admitted to the Philippine General Hospital during very nearly the same period of time (1916-1923) likewise show a steady increase every year, beginning with three cases in 1916 to 68 cases in 1924. An analysis of the distribution of these cases

¹ Read before the Annual Joint Meeting of the Manila Medical Society and the Philippine Islands Medical Association, December 17-19, 1924.

shows that trachoma is present not only in the City of Manila but also in the provinces. The disease was found prevalent in Cebu according to a survey made by Doctor Schwartz, who found 13 per cent incidence among school children and 9.5 per cent among the city population. Reports of school inspection in Nueva Ecija also show that it exists in that province. It may therefore be inferred that trachoma is still prevalent all over the Philippine Islands.

The following statistics are the results of the trachoma survey in the public schools of Manila during the last ten years:

Trachoma survey in the Manila public Schools for the last ten years

Year	Number of pupils examined	Number of trachoma cases	Percentage
1913	12,000	103	.86
1914	35,171	91	.26
1915	25,747	117	.46
1916	33,597	1,248	.37
1917	27,221	479	1.76
1918			
1919			
1920			
1921	56,209	1,396	2.48
1922	54,545	2,105	3.86
1923	48,363	2,276	4.71

¹ No data available.

The increasing prevalence was recognized in due time by the Philippine Health Service, and necessary steps were taken to control the disease. Trachoma surveys particularly among school children of the public schools were made and campaigns against disease were started and are still being carried out. The results so far obtained from these measures as well as from an analysis of the cases admitted to the Philippine General Hospital from 1916 to the current year form the basis of this preliminary report.

The surveys were begun in 1917 among the students of the Manila High School and the Philippine Normal School. The first step taken by the Philippine Health Service for the early control of the disease was to declare trachoma as one of the contagious and reportable diseases. Accordingly, school children and Government employees found with the disease were suspended from school or office until cured. This was started in 1907. The suspects and positive cases were then treated at the St. Luke's Hospital under the auspices of the Bureau of Health (now Philippine Health Service).

The following table shows the results of the survey made in some of the public schools in Manila during the present year:

Schools	Total number of pupils	Male	Female	Trachoma cases		Total number of trachoma	Cured	Un-cured	Percentage of trachoma
				Male	Female				
Burgos Elementary	1,542	898	645	12	4	16	16		
Legarda Elementary	1,512	920	592	7	1	8	8		
Washington Elementary	1,035	628	407	5	6	11	11		
San Sebastian Primary	778	391	386	15	7	22	21	1	
Philippine School of Commerce	426	348	78	4	0	4	3	1	
San Miguel Primary	734	392	342	22	12	34	34		
Sampaloc Intermediate	1,224	695	529	15	7	22	22		
Santa Mesa Primary	778	426	352	19	9	28	28		
Manila East High	2,024	1,204	820						
Meisic Elementary	2,196	1,317	879	5	0	5	5		
San Nicolas Intermediate	934	531	403	28	3	31	29	2	
San Nicolas Primary	1,205	650	555	30	16	46	42	4	
Soler Primary	947	536	411	13	10	23	22	1	
Zaragoza Elementary	1,043	645	398	21	8	29	26	3	
Soler Intermediate	826	519	307	17	13	30	24	6	
Meisic Primary	2,546	1,402	1,144	54	10	64	57	7	
Asuncion Primary	639	349	290	23	19	42	26	6	
Total	20,399	11,851	8,550	290	125	415	384	31	2.01

These findings compare favorably with those of R. A. Herring, Passed Assistant Surgeon, U. S. P. H. S., in a survey made in Tuscaloosa, Alabama, where he found 2.8 per cent of positive cases among school children. Likewise they do compare well with those found in a survey made in Porto Rico by W. W. King, Surgeon, U. S. P. H. S., who obtained a general average of 9.5 per cent of positive cases among school children examined.

MEASURES AND TREATMENT PRESENTLY ADOPTED BY THE PHILIPPINE HEALTH SERVICE FOR THE CONTROL OF TRACHOMA

Nurses are instructed in the detection of trachoma cases, and those they find during their inspection in the schools are noted down, and are subsequently inspected by the school physicians for confirmation. Cases are excluded when confirmed, the exclusion being ordered only by the school physician. Suspicious cases which cannot be positively diagnosed are referred for treatment to their family physicians, if they can afford to have them, or otherwise, to the different school clinics, and are placed under close observation and are more frequently inspected. These were not included under the positive cases.

A diagnosis of trachoma is made, when, in addition to the granulations in either lower or upper eyelid, or both, there is hypertrophy or infiltration of the conjunctivæ, more frequently manifested at the retrotarsal folds.

Cases without hypertrophy of the conjunctivæ, and especially when the granulations are more or less in regular rows, and the blood vessels distinct and clear, are diagnosed as follicular conjunctivitis, and are placed under treatment and observation, but are not excluded from school.

Of the cases first diagnosed as follicular conjunctivitis, there were some which eventually showed after sometime to be trachoma cases, and they were then subsequently excluded from school. There were others that yielded to treatment identical to that of trachoma. This shows the difficulty of determining the diagnosis in certain borderline cases, where only careful observation while under treatment will determine the real nature of the disease.

In general, the majority of the cases found were of the chronic benign type, acute cases being very rare. This may be accounted for by the fact that they were discovered early. Among those that manifested symptoms, the feeling of the presence of foreign body or of sand in the eyes, and slight pain, slight discharge, and photophobia were the more prevalent. The patients usually were not aware of the existence of the disease, due to complete absence of subjective symptoms and in most of the cases diagnosis was made only from the objective signs, the presence of distinct granulations accompanied by hypertrophy or infiltration of the conjunctivæ.

TREATMENT

During the first part of the year, a special trachoma clinic was established in the Central Office of the Philippine Health Service for the treatment of those children who could not afford to have their own physicians. Later on, the treatment of other cases was also begun at the other school clinics, to cope with the great number of cases. A special arrangement was also made with the Philippine General Hospital for the treatment of cases needing surgical intervention.

The treatment practiced in the Philippine Health Service has given very satisfactory results and has proven easy and efficacious in that it necessitates no special instruments, and is more effective, compared with the treatment with the copper sulphate method and other medical measures. The treatment mentioned consists of curettage with gauze, under local anesthesia with 2 per cent solution of cocaine, gradually removing or curetting away granules. After curettage, the eye is washed freely with boric acid solution, and then one drop of 10 per cent argyrol

instilled. The next day a serous lymph-like secretion will appear lining the sore surface of the conjunctiva. In washing the eye the next day with boric acid solution, this lining should be washed away, and when the eye is already clean, 1 drop of a 10 per cent argyrol solution is again instilled.

The washing is continued every day for a week, after which the other eye is subjected to the same treatment. If after the first curettage there are still granules left, the treatment is repeated. As soon as the granulations disappear (and the discharge if noticeable, usually disappears with it), the patient is discharged and a certificate for readmission into the school issued.

If the case is not severe and the granulations not very thick and massive, these entirely disappear after the first treatment, leaving only fine white striae in the conjunctivæ as sequelæ. In some, scars are not visible but the conjunctivæ does not look as smooth as normal, or the blood vessels not as distinct.

The early cases, however, that were treated promptly showed no change after the treatment, the conjunctivæ being left as smooth as normal. This shows the importance of the early recognition of the disease.

The majority of the cases took about from three to four weeks to get well. Those that were discovered early or those that were recurrences took a shorter time. There were also cases that took over a month, these being those cases where repeated treatments were necessary. Other cases took a longer time than necessary because of the failure of the patients to come regularly for treatment.

A considerable number of the cases treated were recurrences, which needed treatment again after six months or more. This shows the necessity of continued observation and inspection even after treatment, in order to watch for recurrences, and to guard against the propagation of the infection.

Of the 400 cases registered, 357 were treated and discharged cured, the majority at the school clinics of the Philippine Health Service. Of those treated and reported cured, not a single case was observed to have had any untoward effect on the vision.

The serious cases were sent to the Philippine General Hospital where they were submitted to surgical treatment under general anesthesia. The patients were generally discharged one week after operation, but post-operative treatment was generally kept up for two weeks after which they are given certificates for admission into their respective schools.

**TRACHOMA CASES ADMITTED TO THE PHILIPPINE GENERAL
HOSPITAL FROM 1916 TO 1924**

Three hundred and five cases in all were admitted during the period from 1916 to 1924, 293 of which were discharged cured, 66 improved, and 14 unimproved. Of those improved, two were not operated on. These are shown in Tables (a), (b), and (c).

(a) Sex incidence

Year	Males	Females	Total	Males	Females
				<i>Per cent</i>	<i>Per cent</i>
1916.....	3	0	3	100	0
1917.....	7	3	10	70	30
1918.....	7	4	11	63	37
1919.....	9	8	17	53	47
1920.....	28	9	37	75	25
1921.....	19	14	33	57	43
1922.....	42	25	67	62	38
1923.....	36	23	59	61	39
1924.....	45	23	68	66	34
Total.....	196	109	305	64	36

The same cases gave the following age incidence:

(b)

Year	2 Years	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60-70
1916.....	0	0	1	1	0	1	0	0	0
1917.....	0	0	2	2	2	3	1	0	0
1918.....	0	0	1	5	3	2	0	0	0
1919.....	1	1	3	10	1	1	0	0	0
1920.....	0	0	12	19	5	0	1	0	0
1921.....	0	0	12	12	6	2	0	0	1
1922.....	0	0	22	33	5	2	0	0	0
1923.....	0	2	9	29	8	2	1	1	0
1924.....	0	20	12	37	10	1	1	0	0
Total...	1	23	74	148	40	14	4	1	1

(c) Statistics of cases treated in the Philippine General Hospital

Year	Recovered	Improved	Unimproved
1916.....	1	2	0
1917.....	2	7	1
1918.....	6	5	0
1919.....	10	7	0
1920.....	35	1	0
1921.....	31	1	1
1922.....	57	10	0
1923.....	52	7	0
1924.....	67	1	0

The age incidence in the preceding table shows that trachoma is prevalent during school age, especially at the age of from 10 to 20 years, this group constituting almost 50 per cent of the total cases. It may be interesting to mention here that one case was a child of two years while another was in one of 69 years old.

The preceding table as well as that of school children show that the disease is more prevalent among males than females. This may be partly explained by the fact that boys have more varied associations than girls, and also by the fact that girls are by nature more careful about their personal habits.

HANDICAPS AND DIFFICULTIES IN THE CONTROL OF TRACHOMA

While trachoma is avoidable and curable during its incipient stage, yet it is generally considered as surely contagious, and its propagation is therefore mostly thru contact. An early discovery and timely segregation are therefore very necessary for its control, and yet it is sad to state that in carrying out these two necessary measures difficulties are encountered. We are constrained to say that obstacles come not only from the public, but also from some members of the medical profession who have shown themselves as apparently against these measures. And while some others do not offer any active objections, yet their indifference or unconcern to the existence of the disease and their consequent failure to report the cases serve as a great obstacle, if not a hindrance, to the control or eradication of the disease. We do not wish to be misunderstood, however, for there are those who do actively coöperate in this work. In this connection, we are glad to express our gratitude to the school authorities who with few exceptions have greatly coöperated with us in the enforcement of these measures and have done what they could to facilitate our work.

CONCLUSIONS

1. While the result of the survey in the public schools for the current year seems to show that trachoma among school children in Manila is now under control and is on the decrease, yet trachoma still remains to be a problem which needs the serious attention not only of the Philippine Health Service but of the whole medical profession. The Philippine Health Service cannot solve this problem single-handed without the coöperation of all, and it therefore needs and seeks that coöperation.

2. Another factor which adds to the seriousness of this problem is the possible and probable importation of more cases into this country, more particularly from China and Japan, on account of the great numbers of these people that come to our shores. It is however a relief to know that the Immigration Law of the United States protects the Philippine Islands to a

certain extent from this danger. In the United States, the exclusion of aliens having trachoma was started about 25 years ago, and thousands of immigrants have thus been denied admission. This same measure should be adopted here in the Philippine Islands.

3. The medical profession as a whole has so far failed to report the cases of trachoma.

4. The cases usually found here in the Philippine Islands are of the chronic benign type.

5. There are usually no serious complications observed or sequelae left.

6. Trachoma is more frequent in males than in females.

7. Trachoma is more frequent at the age of 10 to 20 years.

8. Trachoma is still prevalent in the schools, and probably in the community and should be placed under control and finally eradicated.

9. For this work, a special personnel, headed by a competent specialist, should be assigned.

TRACHOMA CONTROL IN THE PROVINCE OF ZAMBOANGA

By Dr. PEDRO A. RODRIGUEZ

Senior Surgeon, Philippine Health Service

One of the public health problems which the Philippine Health Service has to face today is the control of trachoma in the Philippines. According to statistics trachoma in the Philippines is prevalent, not well controlled, and apparently is spreading in many regions. Before taking up the question of trachoma control in the Province of Zamboanga, let us review briefly the subject of trachoma as it stands today.

HISTORICAL

Trachoma is an ancient disease which probably existed many thousand years ago, but little attention had been paid to its recognition until 1808 when it was introduced into Europe by the French and English soldiers returning from Egypt after the Napoleonic expedition. It was disseminated among the civilian population by the discharged soldiers affected with the eye disease.

According to the report of Doctor Alberto on Trachoma and its Prophylaxis to the "Primera Asamblea Regional de Médicos y Farmacéuticos de Filipinas" in 1912, the occurrence of trachoma in the Philippines was rather infrequent. He believed that the disease was imported by aliens and that there was no focus of infection in the Philippines. But according to Senior Medical Inspector Griffin of the Philippine Health Service trachoma existed in the Philippines even before the advent of the Spaniards.

The occurrence of trachoma among the natives of Mindanao and Sulu has been a comparatively recent discovery. The first record of its kind in Zamboanga was in 1919, when three cases of trachoma were treated at the Zamboanga General Hospital. In 1917, there were ten cases of trachoma treated at the Sulu Public Hospital. There were about ten cases of trachoma registered among the school children in Davao in 1918. Its existence in Cotabato was known only in 1919, when fifty-three

cases of trachoma were treated at the Cotabato Public Hospital. The first cases of trachoma recorded in Agusan were in 1920. The record of the office of the district health officer in Surigao shows that the first cases of trachoma have been reported only in 1920. In some provinces of Mindanao and Sulu approximately 10 to 15 per cent of the school children are affected with trachoma.

TABLE I.—*Record of date of trachoma as found in the following provinces*

Provinces	Date	Cases	Provinces	Date	Cases
Manila (city)	1911	700	Cotabato	1919	53
Sulu	1917	10	Surigao	1920	42
Davao	1918	10	Agusan	1920	36
Zamboanga	1919	3			

NATURE OF THE DISEASE

Trachoma is a dangerous contagious disease of the eyes, which first affects the eyelids, causing thickening and destruction of the conjunctiva and formation of granules. It is a long standing disease, generally extending over a number of years. It may begin suddenly or the onset may be so insidious that the patient is not aware that there is anything at all wrong with the eyes. It may cause serious damage before it attracts attention. It persists for years, and if not properly treated, practically always results in serious damage to the vision. The impairment of vision ranges from comparatively slight defect to total blindness. While blindness often results from trachoma, it is now recognized that possibly it is not the worse feature of the disease. We know that it lasts for years with constant irritation and discomfort to the patient, impairing his earning capacity, ruining life and happiness of entire families, and finally terminating in total blindness. The complications are numerous and damaging and include keratitis and blepharitis, destruction of the lids known as entropion and ectropion. When the ectropion is marked, the eyelashes rub against the cornea, producing ulceration and opacity. In this manner sight is involved and ultimately vision may be lost.

CAUSE OF TRACHOMA

The exact etiology of trachoma is still unknown, altho a tremendous amount of research work along this line has been carried out. Some investigators believe that trachoma is not caused by microorganisms, while others claim that they found certain

organisms. Cohen and Noguchi think the cause of trachoma is a non-identified virus. Prowasek and Halberstadter, while working in Java, found certain cell inclusion from the smear of trachomatous eyes. However, this finding is inconclusive, inasmuch as similar inclusions have been found from gonorrheal pus and sometimes in the genital discharges of those suffering from inflammation of the parts.

Despite occasional assertion to the contrary, there is no doubt that trachoma is transmissible from sick to well by the discharges of the eyes. This can occur in many ways, such as thru the use of common basins, handkerchiefs, bed clothes, or towels. The use of the same towel by more than one person is the easiest way to convey infection. Children at school may also convey the infection to others by exchanging or using the same books, pencils, paper, clothes, toys, or in playing games by blindfolding each other with handkerchiefs.

TRACHOMA CONTROL IN OTHER COUNTRIES

Campaign against trachoma in the United States began in 1897 in the immigration service. During the last 17 years, all arriving aliens have been carefully examined for trachoma with a view to excluding those infected.

The Surgeon-General of the United States Public Health Service has recommended the establishment of small hospitals for the treatment of trachoma as being the best means of combating this disease. According to the report of the Surgeon-General, United States Public Health Service, in 1920 five trachoma hospitals have been established. Since these trachoma hospitals have been opened between nine and ten thousand cases of trachoma have been treated in these hospitals. There have been 55 field clinics conducted at which 20,882 persons of all ages were examined. There were 1,526 operations performed, 1,156 of which were performed under general and 370 under local anesthesia.

Among the requirements set forth by Kerr for the improvement of the trachoma situation in England are the elimination of the foci of the disease and the improvement of the community sanitation. It is said that trachoma is largely a disease of insanitary surroundings, and their abolishment will depend in a great measure upon the improvement of the social and economic condition of the infected communities. In bringing about these improvements, the education of children in individual prophylaxis is essential.

Canada followed the example of the United States and instituted inspection service. In Amsterdam the committee to seek out the foci of infection and to suggest ways and means for an effectual campaign against trachoma recommended the examination of all children at the fifth year and further examination every year of those recorded as having trachoma. The committee did not advise compulsory treatment, but merely the children recorded as having trachoma should not be admitted to school without a certificate that they have been treated.

TRACHOMA CONTROL IN THE PHILIPPINES

Our plan of control of trachoma in the Philippines is similar to that of Amsterdam. Here the only sanitary measures required for its prevention and control is to exclude those pupils suffering from trachoma from the school, and in some cases to require them to report to the dispensary every day for treatment. Altho there were several cases of trachoma operated on in the different hospitals in Manila, yet the Philippine Health Service has not yet adopted this method as a sanitary measure to wipe out the foci of infection. In the Philippines, like in Amsterdam, the treatment among the school children is not compulsory, but are excluded from the school and are required to present a certificate that they have been cured either by the family or school physician before admission to the school.

The Immigration Law in the Philippines with reference to dangerous communicable diseases requires that those who are found suffering from trachoma coming from foreign ports should be excluded and should present a certificate to the quarantine officer that they have been cured by a reputable physician.

The present method of control in the Philippines is not efficient and a more radical one is required. The plan of establishment of trachoma hospitals and free clinics in the outlying districts where trachoma is prevalent similar to that recommended by the Surgeon-General of the United States Public Health Service should be followed. The hospitals will not be used merely as centers for treatment of this disease, but also for educational purposes.

TRACHOMA CONTROL IN ZAMBOANGA

The first indication for the control, suppression and eradication of trachoma in Zamboanga began in 1920, when forty-five positive cases of trachoma were excluded from the school and operated on in the Zamboanga General Hospital. Following that year, a more systematic examination of school children

was undertaken. A free clinic for the treatment of this disease was held at the hospital. The teachers and parents of those who were suffering from trachoma were notified, and the trachomatous pupils were excluded from the school and advised to undergo operation either by the family or the hospital physician. Those incipient or suspicious cases were not excluded or operated on, but were simply required to report at the dispensary for treatment every day outside of the school hours until they are cured. After a period of three or more weeks' treatment a certificate was generally issued to the principal of the school to the effect that the pupil concerned has been cured.

TABLE II.—*Condensed report of hospital cases in Zamboanga*

	1919	1920	1921	1922	1923
Total admitted.....	0	45	64	162	99
Operation performed:					
Expression and grattage.....	0	45	64	162	99
Ptyregium.....	1	6	3	3	4
Extraction, cataract.....	0	3	0	0	1
Decision, cataract.....	0	0	0	1	0
Removal of foreign body.....	3	2	3	5	4
Tonsillectomy.....	1	12	11	3	7
Adenoidectomy.....	3	1	1	1	1
Dacryocystectomy.....	0	0	2	2	0
Mastoidectomy.....	0	0	0	0	1
General anesthesia.....	0	30	52	150	75
Local.....	0	15	0	12	24

The clinic was in operation from 1920 to 1923, usually from August to November, inclusive, a period of about four months every year. Out of 11,312 school children examined in different schools in Zamboanga, from 1920 to 1923, 570 were diagnosed as trachoma, 557 as suspicious, 10,849 were found to be negative, and 337 showed evidence of follicular conjunctivitis. During this time that the clinic was in operation there were admitted to the hospital 370 trachoma cases. A total of 370 trachoma operations were performed, 334 under general, and 36 under local anesthesia.

The operative procedure followed by this hospital is as follows:

After the patient is etherized the upper lid is everted and seized with eyelid forceps. The granules of the lid were first expressed or squeezed with suitable forceps (Knaps, Noyes, or Kunts), followed by brushing or rubbing the granules on the conjunctiva with gauze wet with bichloride of mercury (1:5000) solution (grattage of brossage), until the lids are free from granules, care however, being taken not to injure the cornea or lacerate the conjunctiva. The lower lid is treated the same way. After the operation, argyrol is instilled into the eyes and eyepads applied. The after-treatment consists of cleansing the eyes with boric acid and instillation of 2 drops of 15 per cent argyrol every three hours for about one week. After the swelling has subsided, the lids are cauterized with copper sulphate stick for about two weeks.

During and after these clinics no bad results from the operation were recorded except some recurrences and synechia. The percentage of recurrence is comparatively low. Of the 370 operated on for trachoma there were 19 recurrences. A number of those operated on were requested to return for further treatment and examination, and in all, the conjunctiva was found to have healed.

There was very little opposition on the part of the patients and parents to their treatment after explaining to them the harmful effects of trachoma. The large number of patients applying for treatment overcrowded the hospital, and it was necessary to keep a waiting list and notify them when they could be admitted for treatment. The response was immediate and most unusual; the patients came in when told and coöperated in every way for the successful handling of such a large clinic. From start to finish the clinic proved to be an exceedingly busy one, and the doctors and nurses had to be on duty practically all the time, as generally there were more than 100 dispensary cases during the day in addition to the operative work, which was usually done in the early afternoon.

FUTURE PLAN OF THE CAMPAIGN

Because trachoma is a highly contagious disease, because it is a menace to public health, and because it produces many harmful effects to the vision, the Philippine Health Service is therefore called upon to take an active campaign for the eradication of this malady. It is the duty of every man, woman and child to join this campaign. Every case of this disease could be prevented if everybody coöperates.

The Philippine Health Service should detail officers and nurses experienced in trachoma work and hold clinics in every municipality at certain times of the year, preferably during the school year. The municipality should provide the building and pay all the expense incident to the holding of the clinic. While it is impossible to give in advance any accurate estimate to the amount needed, it is suggested that an appropriation of ₱500 by each municipality will be sufficient to start with.

To run a trachoma clinic is inexpensive. A small supply of gauze, absorbent cotton, ether, cocaine two per cent, boric acid, argyrol, and copper sulphate are the only materials needed. One eyelid and one thumb forceps, a horn plate and a grooved director are the only instruments required for expression and grattage of trachoma.

The future plan of the campaign in the forty-fifth Health District (Zamboanga, Mindanao and Sulu) for the prevention and control of trachoma includes the following:

1. Survey not only of school children but also of employees and other groups in districts where trachoma is known to prevail and later all over the province for the present indication points to its general distribution.
2. Follow-up work in families where one case has been found, to find out whether there are other cases and to instruct on measures designed to prevent further spread of the disease.
3. Free distribution of educational bulletins regarding the prevention of trachoma.
4. Establishment of trachoma hospitals at important points, where all cases may receive free treatment.
5. The common use of towels and basins in dormitories, hospitals, and factories should be prohibited.
6. Strict adherence to physical examination of the eyes of immigrants as required by the immigration law, should be strictly followed.
7. Holding of barrio clinics by doctors and nurses in the neighborhoods of the hospitals whenever they could be spared from their hospital duties.
8. Research and investigation into the etiological and epidemiological phases of trachoma.
9. The following directions recommended by McMullen of the United States Public Health Service should be printed on cards and distributed free to all the schools, colleges, dormitories, asylums, prisons, and factories as guide to prevent the spread of trachoma:

(a) HOW TO AVOID TRACHOMA

1. Do not use the common family towel especially in homes where there are cases of trachoma.
2. Have a towel and handkerchief of your own and don't let anybody else use them.
3. Always make sure that the wash basin is clean before you use it.
4. Do not sleep with the persons who have "sore eyes" nor use bed clothes which have been used by them.
- 5 Do not wear clothing of persons who have "sore eyes" nor use their eating utensils without previous cleansing.
6. Boil the handkerchiefs, etc., of persons who have "sore eyes" and do not touch their faces.
7. Advise persons with sore eyes to have them treated at once at the eye clinic.

(b) ADVICE TO THOSE HAVING TRACHOMA

1. Apply at once for treatment to the nearest hospital, dispensary, or to your physician.
2. Follow the direction of the doctors and nurses as to the treatment and prevention.
3. Do not stop treatment until you are cured.
4. Wash the face and hands several times a day and keep the finger nails clean.

5. Have your own basin, soap and towel.
6. Boil your handkerchiefs before adding them to the wash.
7. Do not allow your clothing or bedclothes to become soiled with the discharges (pus from your eyes).
8. When your eyes are discharging pus collect the discharges on clothes which can be burned and stay away from the members of the family as much as possible.

The work for the eradication of trachoma is expected to take years, but eventually it will yield to scientific treatment. Exerting the necessary efforts, the trachoma menace can be removed like any other communicable disease on time. I believe time is not far distant when we will be able to say that trachoma is no longer a public health problem in the Philippines, if the plan outlined above could be carried out. Such a plan is worthy of our best efforts.

TABLE III.—*Summary of trachoma cases in Zamboanga from 1919–1923*

<i>Dispensary</i>	1919	1920	1921	1922	1923
Total dispensary cases.....	3	168	268	577	673
Average daily attendance.....	0	28	44	96	112
Total treatment given.....	11	2,352	2,680	5,770	6,730
Cases cured.....	3	140	200	400	452
Acute conjunctivitis.....	0	20	21	80	8
Chalazion.....	0	7	5	7	0
Horodileum (stye).....	1	12	7	23	2
<i>Hospital</i>					
Total admitted.....	0	45	64	162	99
Operations performed:					
Expression and grattage.....	0	45	64	162	99
Pterygium.....	1	6	3	3	4
Extraction, cataract.....	0	3	0	0	1
Decision, cataract.....	0	0	0	1	0
Removal, foreign body.....	3	2	3	5	4
Adeniodectomy.....	3	1	1	1	1
Tonsillectomy.....	0	0	2	2	0
Mastoidectomy.....	0	0	0	6	1
General anesthesia.....	0	0	52	150	75
Local.....	0	0	0	12	24
<i>School examination</i>					
Number of examinations held.....	16	23	17	22	21
Children examined.....	1,196	3,604	1,594	3,015	1,908
Trachoma cases found.....	4	69	128	224	145
Suspicious of trachoma.....	0	31	137	180	209
Conjunctivitis, follicular.....	0	20	5	71	241
Acute conjunctivitis.....	1	39	0	8	8

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PROPOSED INSULAR ASYLUM

By ELIAS DOMINGO, M.D.

Philippine Health Service

According to the latest report of the Philippine Health Service there are at present about 5,000 insane persons at large in the provinces, which are uncared-for and who are not infrequently becoming a public menace to innocent citizens due to sudden violent psychotic spells. Only from 600 to 700 are isolated in two Institutions, namely, the Insane Department of the San Lazaro Hospital and the City Insane Asylum, the former holding about 500 and the latter about 200 patients.

INSANE DEPARTMENT OF THE SAN LAZARO HOSPITAL

There are now two separate buildings occupied by these patients. That at present housing the male insane persons is of a very old type, notwithstanding the fact that there is an annexed building made of concrete. This building has a capacity for only 250 patients, but at present there are 354 male patients in it. It can thus be clearly seen that there is overcrowding. Furthermore, there is no effective isolation and segregation of the various types of insanity. For the proper treatment and care of the insane, classification and segregation in several buildings is an imperative necessity in accordance with the demands of the modern treatment of such patients.

The present distribution of the patients is as follows: One hospital clinic where physically ill patients are placed and properly treated, one ward consisting of seven rooms where the pay patients and other very incipient and habitue cases are placed, one set of 12 seclusion cells, a two story concrete building the first floor of which is the dining room in which are placed some of those patients that have shown improvement and are ready for parole, and the second floor of which is for those disturbed cases which are not destructively violent. Those that are violent are placed in seclusion cells. All these wards are connected with each other by corridors being separated only by doors. The criminal insane persons are placed in a separate ward with four seclusion cells under the same building where the violent cases are housed.

Bath rooms and toilets are found in each of the wards mentioned, although no special room for hydrotherapy can be utilized. At present therapeutic baths are given in the form of hot packs, but such baths could hardly be equal to the continuous hot baths which are given in other modern institutions.

Although the building which is at present occupied by the female insane persons is a new construction yet the plan is inadequate for a proper insane building. The isolation cells are placed in front of the sleeping wards, and in this way, the disturbed patients annoy those that are already improved, by the noise they make. The present location is undesirable owing to its proximity to Avenida Rizal, and patients often become excited by the sight of constantly passing funeral processions. Likewise as in the Male Department, there is no hydrotherapy room.

OCCUPATIONAL THERAPY

Owing to lack of proper accommodation on occupational therapy could be given, except to a very limited number of male patients who have shown distinct adaptation and who are thus allowed to go out in groups to work in the gardens of the hospital under proper guard.

RECREATION AND AMUSEMENTS

These are lacking owing to the peculiar situation where the patients are located. There is one yard of moderate size in each department where the patients are requested to go out to receive the stimulating effects of sunshine during the dry season. Sometimes, volley ball and "sipa" are played by the male insane persons.

TECHNICAL CARE OF THE INSANES

When a patient is admitted, he is immediately placed under the direct care of the nurse in the hospital clinics. The history of the patient is then taken from all available sources and his disease classified. Antityphoid and cholera vaccination is routinely given to all new patients admitted. The stool and urine are examined and proper treatment is given if the patient is found to harbor any of the intestinal parasites.

Those cases that are found to be incipient are placed in the Hospital Clinic and are placed under the direct charge of the Psychiatrist in charge for psychotherapeutic treatment, and other pertinent therapy.

All patients upon admission receive a Wassermann test of the blood and if found positive the case is examined thoroughly

and a lumbar puncture is made to further the study of the case. If the patient is finally found to be suffering from syphilis then antisyphilitic therapy is immediately instituted. Unfortunately, such treatment can not be continued for a long time because the patients leave the hospital before any benefit is observed.

When the case is observed to be of a chronic nature the patient is placed in the main ward where hygienic care is given and where their physical ills are attended properly. A daily ward visit is made by the Resident Physician or one of his subordinates in order to detect anybody who is physically ill. If a patient is found to be ill he is immediately placed into the hospital clinic and treatment is given.

THE DISTURBED CASES

In most hospitals for the insane, these types of patients are usually placed in a separate building to avoid disturbing others who are just beginning to be insane or at the verge of having attacks. In our institution this arrangement is not so well carried out because of the lack of proper accommodation. The disturbed cases are placed almost in contact with the rest of the patients. They are placed in properly constructed isolated cells which are fire-and-escape proof.

MANAGEMENT OF DISTURBED CASES

When a patient is found to be disturbing others, either by the noise he makes or by his actions, he is immediately placed in one of the cells under the observation of the physician, and freedom is given as soon as he gets quietened down. A seclusion blank is filled by the nurse in charge in each shift and the names of the patients and the reason for his seclusion is put down on record, so that unjustified seclusion is not done at all. Prior to the erection of more cells when the patient becomes violent and excited he is mechanically restrained by means of anklets which is made to prevent the patient from hurting others. If the excitement of the patient is of a temporary nature he is not placed in the cells but a straight-jacket is placed on him for two or three hours or until he gets quietened down.

MANAGEMENT OF IMPROVED PATIENTS

Male patients between the ages of 20 to 30 years are placed outside for sundry kinds of work such as grass cutting, street cleaning, etc., while the female patients are placed in the linen room where mending and sewing are done.

DISCHARGE OF RECOVERED PATIENTS

When after a certain period of observation the patients are found to behave well and are quite adaptable to the social environment, then they are ready for discharge provided that a responsible person should present himself to take the patient out of the Institution. Preferably, the patients are placed on parole for a certain length of time, and if another attack supervenes, then they are admitted again in the hospital. However, many patients who are discharged never come back and we lose sight of them. In this case the follow up work could be very well done by a good social service agency.

WHAT CASES ARE ADMITTED IN THE HOSPITAL

According to recent rules issued by the Director of Health, the following cases are admitted in the San Lazaro Hospital:

1. Insane brought by the police to be transferred to the City Insane Asylum. City cases are those insane persons who have resided in Manila for one year or more.

2. Provincial cases recommended by the president of sanitary division, district health officer, or medical inspector in charge of health station in the city and with the approval of the Director of Health. In emergency cases, when the patient is of an immediate danger to the community, they are admitted temporarily pending the approval of the Director of Health.

3. Patients from the Philippine General Hospital who, by nature of their disease, become complicated by a transient psychosis. The permission and the approval of the Chief of this hospital must first be obtained.

4. Cases from the Court of First Instance all over the Islands including the City of Manila, and from whom the mental examination of a criminal is requested.

5. Prisoners who become insane either in Bilibid Prison or in any jail in the Philippine Islands.

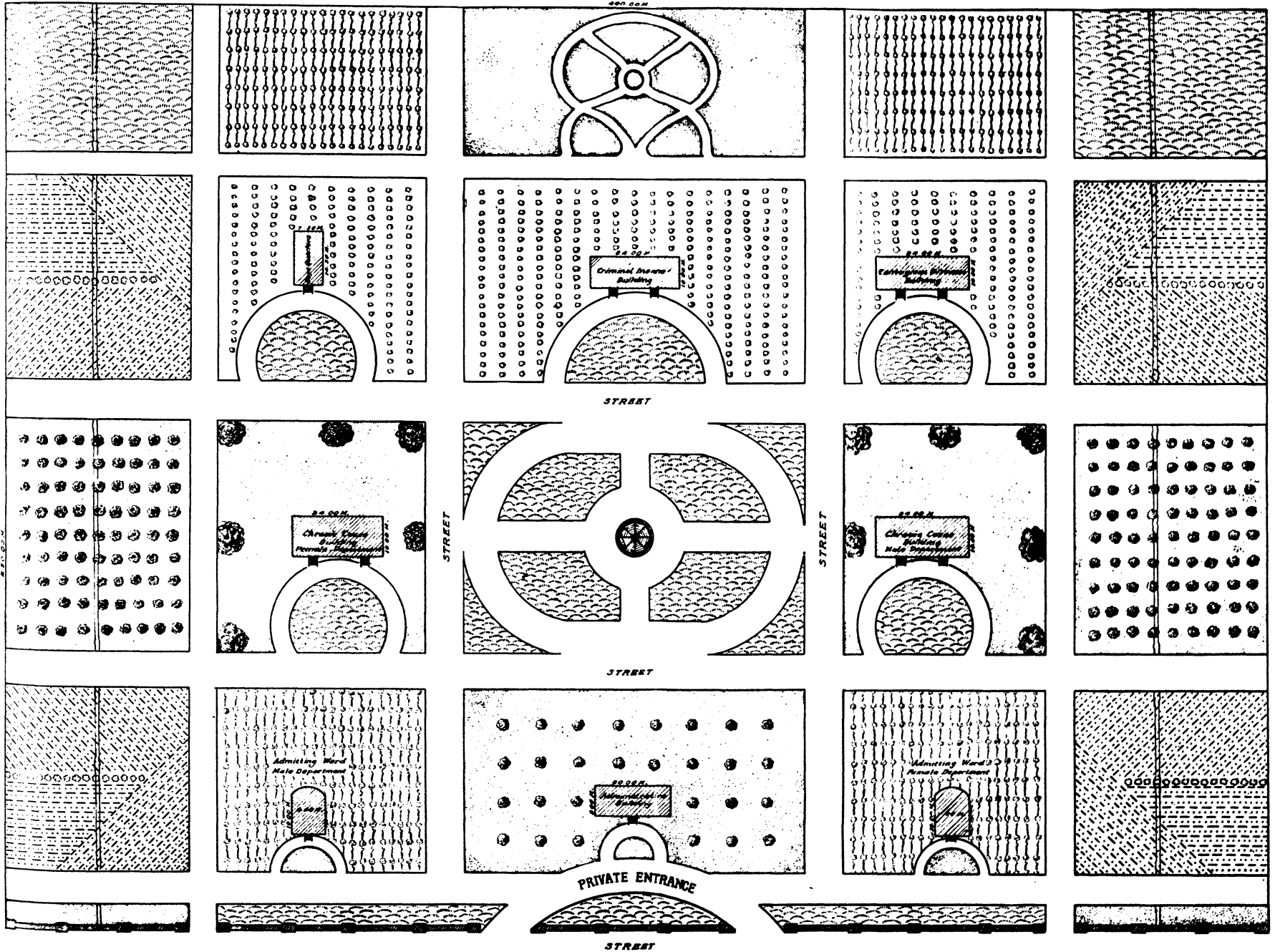
6. Eminently emergency cases, pending investigation of financial condition according to the provisions of the Administrative Code (section 1045).

7. A very limited number of pay patients are admitted owing to lack of proper accommodation.

WHAT WE ARE DOING TO IMPROVE THE CONDITIONS OF THE INSANE

In its last session, the Senate approved a bill for the Insular Asylum appropriating the sum of ₱200,000 annually for five years, for the maintenance, erection of buildings, and purchase of suitable land. This bill was not taken up by the Lower House due to pressure of business, but it has been assured that it will be approved by both houses in the next session.

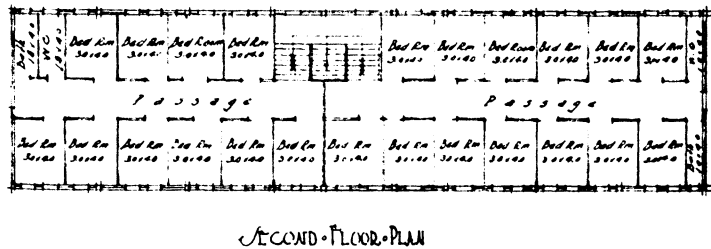
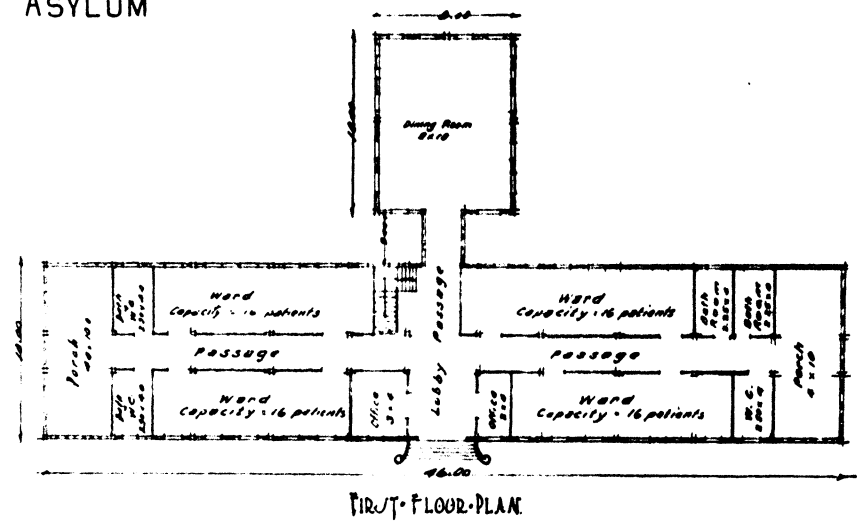
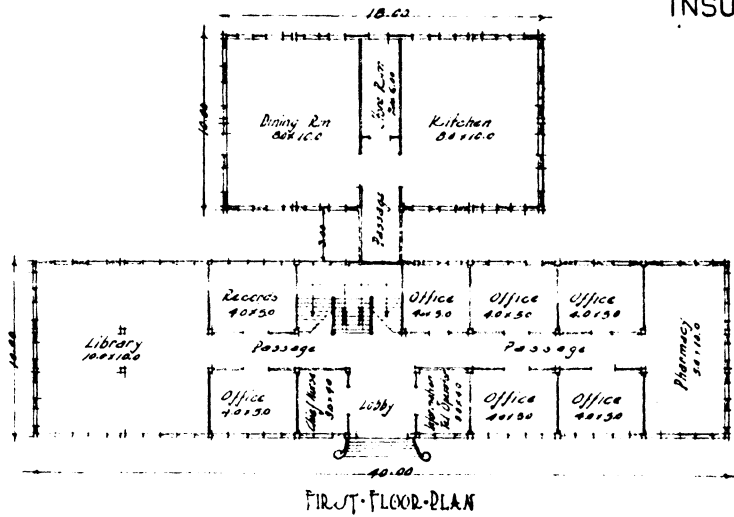
PHILIPPINE HEALTH SERVICE
OFFICE OF SANITARY ENGINEERING
PHILIPPINE INSULAR ASYLUM
LOCATION PLAN
SCALE 1:500



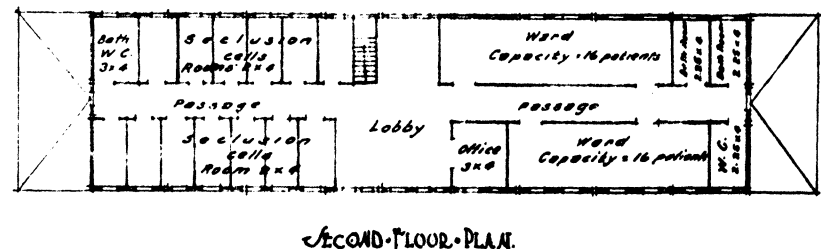
J. LOPEZ
ASST. SANITARY ENGINEER
APPROVED: *[Signature]*
DIRECTOR OF HEALTH
September 21, 1921.

NOTE:-
Estimated cost of proposed
buildings P150,000.00
Area of Lot 10 Hectares

PHILIPPINE HEALTH SERVICE
DIVISION OF SANITARY ENGINEERING
PROPOSED ADMINISTRATION AND CHRONIC DISTURBED BUILDINGS
FOR THE
INSULAR ASYLUM



ADMINISTRATION BUILDING
Second floor capacity 10 Employees (Men)
Estimated Cost ₱39,800



CHRONIC DISTURBED BUILDING
Second floor capacity 48 Patients
Estimated Cost ₱78,000. (Concrete)

The following is a copy of the bill as passed by the Senate in its sine die session:

AN ACT PROVIDING THE CREATION, MAINTENANCE, AND OPERATION OF AN INSULAR ASYLUM FOR THE INSANE

Be it enacted by the Senate and House of Representatives of the Philippines in Legislature assembled and by the authority of the same:

SECTION 1. *Creation of the Insular Asylum for the Insane.*—There is hereby created an institution which shall be known as the "Insular Asylum for the Insane" and which shall be administered and directed by the Philippine Health Service, under jurisdiction of the Department of Public Instruction.

SECTION 2. *Organization and functions.*—The Insular Asylum for the Insane shall take charge of all the insane of any type coming from all points of the Philippines, except the City of Manila; *Provided*, That the insane from the City of Manila may be admitted in the said institution, which the condition that the city shall pay a certain amount per capita to be fixed by the Director Health. Foreign insane may also be admitted. The medical personnel, outside of their routine duties as medical officers of the Asylum are hereby authorized to perform special investigation, studies, and other scientific works concerning the treatment of the insane.

SECTION 3. *Officers and employees of the Institution.*—The Director of Health, with the approval of the Head of the Department, shall assign or appoint the necessary personnel to carry out the works of the Asylum; *Provided*, That appointment to the position of Director and physicians, and other technical employees shall not be extended to any person, who is not a medical officer of the Health Service, unless, otherwise, said appointment is extended to a person, who is a specialist in nervous and mental diseases or has had experience as specialist in such diseases in hospital or institutions for the insane.

SECTION 4. *Appropriation.*—For the purpose of this Act, there is hereby appropriated, out of any funds in the Insular Treasury not appropriated for other purposes, a continued appropriation of two hundred thousand pesos for five years effective the first day of January of every year beginning the year 1925, to be expended upon the direction and approval of the Secretary of Public Instruction, in the purchase of land and construction of necessary building or buildings and other incidental improvements, including the equipment and supplies needed for maintenance and to put in operation the Insular Asylum for the Insane. Any surplus left from this continued operation, will be reverted to the Insular Treasury, after the Secretary of Public Instruction certifies that the Insular Asylum created herein has been completed.

SECTION 5. This Act shall take effect on its approval.

THE RELATION OF SURGERY TO PUBLIC HEALTH

It will seem at first sight that there is not such a close relation between surgery and public health, if there is any relation at all. Yet there is. And nowhere is that relation probably so close, in our country at least, as in the question of tumors, especially malign tumors. Anybody who has been in practice, especially in the surgical clinics of a hospital, can fully realize this point. So many, in fact the large majority of cases of malign tumors among Filipinos present themselves for treatment in such advanced stages that their ultimate cure is out of the question. When a person considers the fact that malign tumors are extremely frequent in this country, certainly much more frequent than was formerly thought of in the Tropics and before the opening of hospitals in this country, he cannot but turn his eye to the officers of public health. For, in spite of persistent researches in the cure of cancer and other malign tumors, it must be confessed that their treatment is as yet far from being satisfactory; and preventive measures against any disease is essentially a public-health function. Again, there is probably no phase of malign tumor treatment in which education can be of greater service than in cancer of the buccal cavity and lips, cheeks, tongue, and jaws. Nowhere does irritation seem to be more clearly demonstrable than in these regions, from such factors as buyo-chewing and other tissue-irritating habits and the neglect of buccal and dental toilet.

It is a well-known fact that the chances of curing a cancer or any other malign tumor are inversely proportional to its duration. Surgery, then, can render its quota of service to the maintenance and improvement of public health statistics both as regards morbidity and mortality, in the proportion which public-health officers succeed in educating the public, not only on the necessity of correcting the habits which are productive of tissue-irritation alone, but also on the necessity of securing proper treatment the moment any evidences of the disease begin to appear, without waiting until it has attained considerable proportions.

The relationship is thus clearly reciprocal. This same reciprocal relationship is duplicated, in a more general way, in the effect on the prognosis and treatment of surgical diseases of such debilitating parasitic infections as the hookworm, which is common in this country, and whose eradication as endemic diseases is a responsibility which falls heavily also upon public-health officers. Nor must we forget this same relationship in the matter of surgical tuberculosis and tuberculosis as a whole, the latter again continuing as one of the most serious and vexing problems in public-health work.

Goiter may also be mentioned as another connecting link between surgery and public-health. As is well known, once well developed, goiter becomes largely a surgical problem, which lacks, however, many of the dramatic features of acute infectious and contagious epidemics.

It will thus be seen that the connection between surgery and public health is not so tenuous as it may appear at first sight.

Incidentally, and this observation is not being made in a spirit of censure, it is regrettable to note how even doctors themselves are sometimes partly to blame for procrastination in the case of malign tumors. Through the uncertain use of ointments and other agents, which are in themselves probably innocuous, untold harm is caused, for the chances of cure are lessened on account of the false sense of hope which they give.

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PHILIPPINE HEALTH SERVICE

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COMMENTS ON CURRENT EVENTS

The incidence of trachoma has been variously reported from the different schools in the Islands at from three to 13 per cent. Among the rest of the population, it has been placed at from 1 to

Our trachoma
problems

10 per cent. Taking into consideration that there are 1,100,000 pupils in the Philippines, we may estimate the number of cases of trachoma among them to be 33,000 if the general incidence is three per cent; and conservatively placing the incidence among the rest of the population at one per cent, we may estimate the number of trachomatous persons in the Philippines, other than the school children, to be 94,000 (considering that the rest of the population is 9,400,000). We may, therefore, state that 97,300 persons in the Philippines are suffering from trachoma.

As we well know that trachoma is highly contagious, it is evident that while the treatment of nearly 100,000 trachomatous persons is already a big task, the seriousness of the problem is aggravated by the potential number of cases which may develop as a result of contagion from the 97,300 actual cases. The eradication of trachoma from our country, therefore, involves (a) treatment of the cases; (b) protection of the healthy from contamination; (c) education of both the healthy and the infected.

What particularly concerns the school physician and the school nurse is the early detection of the disease; and it behooves them to recognize it in its incipient stage, so that early treatment and early precautionary measures against its propagation may be promptly instituted. Physicians and nurses assigned in schools should be sure that they can recognize early cases of

trachoma, and they should be well trained in the prevention and treatment of the malady. Whatever preventive measures are instituted in the schools should also be carried out in the homes, for while in school the common use of books, pencils, etc., and the contact of the infected with the uninfected pupils constitute very effective means of transmission, yet at home the common use of towels, handkerchiefs, bathing utensils, and bed linen as well as close association among the members of the family, are no less potent means of propagation. In other words, the exclusion of a trachomatous child from the school only removes a source of infection from the school, but not from the home and the community. As in other diseases, health education stands out prominently in importance. Success will depend largely upon *individual action*. The private practitioners will not be doing justice to their clients by merely acting as physicians and not as health ministers as well. They have an important part in the task of eradicating the disease. Their coöperation is not only welcome, but is also solicited.

* *

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It has been asserted that the care of the prisoners and of the insane is a good index of a country's civilization. If this criterion be accepted, we can not well be proud of the fact that something like 5,000 insane persons are at large in the Philippines, and the 1,000 being confined in the San Lazaro Hospital and the City Insane Asylum are not receiving all the modern treatment or enjoying the comfort afforded insane persons in other parts of the world. The Philippine Health Service has elaborated plans for the construction and management of hospitals for the insane on a progressive basis, so that the initial outlay of our Government may not be unduly large. It is, indeed, unfortunate that the bill enacted by the Philippine Senate at the last session of the Legislature, appropriating the amount of ₱200,000 annually for five years for the erection and operation of hospitals for the insane, failed of passage in the House of Representatives. As it is known that the attitude of the Governor-General toward the said bill is favorable, should the bill be passed by both houses of the Legislature, its enactment into a law would be practically certain. Let us hope that the next Legislature will enact such or a similar bill and that our 5,000 insane persons will soon have all the opportunities for return to normal life, and

The care of our
insane

their neighbors will be freed from all the menace and danger of violence which always lurk at the present time.

* *

*

If we were to define beauty, we verily would include in the definition a good set of well cared-for teeth.

Health being principally dependent upon digestion, digestion upon mastication, and mastication upon the teeth, it is evident why a good set of teeth is such a great asset to health. Toothache is bad enough, but there lurks a multitude of dangers, more serious than a mere toothache, in decayed or poorly cared-for teeth. Of the diseases attributable to carious teeth or diseased gums, we may mention rheumatism, septicæmia, pyemia, endocarditis, amœbiasis, mandibular, and other buccal abscesses, affections of the gall-bladder and even of the appendix, gastric ulcer, asthma, and so on. Furthermore, carious teeth expose us to a host of diseases like measles and diphtheria.

A careful examination of certain schools in the Philippines has shown that about 85 per cent of the school children have carious teeth.¹ In some places, after one year's service of a dentist in the school, the incidence of dental defects has been lowered to 45 per cent, and so on progressively year by year. While no statistics are available to show the extent of dental caries among the adult population in the Philippines, we feel safe in saying that it must be quite high.

The Secretary-Treasurer of the Board of Dental Examiners states in a personal communication, dated March 9, 1925, that there are in the Philippines 448 dentists of whom 418 are engaged in active practice.

Considering that our population is 10,500,000 inhabitants, there is only one dentist for every 25,000 persons in the Philippines. Our need for more dentists and for intensive dental work is, therefore, obvious. Certain cities in the States have adopted these slogans: "A dental clinic for every school," "A dentist for every 3,000 inhabitants." Let us adopt them here.

In provinces where there are Red Cross and health service dentists, the policy of the Philippine Health Service is to have the health service dentist confine his work to the dental care

¹ Statistics from England and Wales show that about 66 per cent of the school children have carious teeth.

and treatment of the masses, inasmuch as the Red Cross dentists are already in charge of the school children. Of course, the health service dentists are also available for service in the schools whenever needed, and it is gratifying to state that so far there has been cordial coördination and coöperation between the Red Cross and the health service dentists.

As in medicine, prophylaxis counts more than mere cure; and so it does also in the practice of dentistry. This fact becomes the more obvious when we consider that 80 per cent of the cases of dental decay in children's mouths can be prevented, and and that more than 60 per cent of the human diseases gain entrance through the mouth.

The importance of oral hygiene has been recognized since time immemorial, reference to it having being made in Ebers papyrus, which was written thirty-seven centuries before Christ. Dr. E. T. Tarby of Philadelphia, who had the unusual privilege of examining mummies which had been buried for 3,000 or 4,000 years, claims that he "did not find a single evidence of caries." The explanation is to be found in the care the Egyptians took of their teeth.

Oral hygiene reaches deep down to the very foundations of health. Let us mention just one instance. It is the consensus of opinion that the nutrition of the mother vitally affects not only the temporary, but also the permanent sets of teeth of the offspring. The importance, therefore, of educating mothers to fare more on well-balanced diets, as a part of oral hygiene to insure, among other things, the offspring to have a good set of temporary and permanent sets of teeth, becomes evident. Of course, dental hygiene does not end there. It has been truly said that clean teeth never decay, and oral hygiene must be practiced every day thruout one's life.

Oral hygiene is a real investment. Its value in health to the individual, and its economic value to the taxpayer, community, and nation has been amply demonstrated. It, therefore, offers the dental profession an immeasurable field of service. An authority has well said that the dental practitioner who neglects the education of his client along the lines of oral hygiene is remiss in one of the most fundamental obligations of the dental profession.

MISCELLANEOUS

THE LAW IS NOT A DEAD LETTER

You require of the would-be physicians five years of solid medical training on top of thirteen years of elementary, intermediate, high school, and college studies.

You require of the nurses who are to help physicians take care of their patients three years. Admission to the School of Nursing requires that the student has finished second-year high school.

Veterinarians to treat your horses, dogs, and other animals, are required to study for four years after having completed a high-school course.

Now, it would be interesting to know your stand on a proposition to give an eight-month course, purported to transform persons who may be messengers, truck drivers, or what not into Doctors of Chiropractic who will treat you when sick, or some other person who is less informed and less fortunate. We take it that you would be dubious as to the results. You would think that something must be wrong somewhere! You will look for danger signals.

However, there is no longer needed an inquiry into a purely hypothetical question. This particular fad, whether you wanted it or not, has been with us for over three years, two years even after the passage of the medical practice Act No. 3111, in open defiance of the provisions of that law, which is supposed to put the practice of medicine on a safe and sane basis.

Happily, the cause of justice was served when the Supreme Court on the 3rd instant upheld the decision of the lower court penalizing two chiropractors of the City of Manila for the violation of the law.

This can only mean the passing of the cult which has had its mushroom growth and which succeeded for a time in imposing upon the gullibility of a certain portion of our public, much after the fashion of those near-celebrities, Enchong Laway and Apo Iro.

We congratulate the fiscals, judges, and other officers of the Government, as well as unknown private citizens, on their success in bringing about the enforcement of the law.—*Editorial, the Journal of the Philippine Islands Medical Association, March, 1925.*

STRINGENT HEALTH RULE ENFORCED BY UTAH CITY

According to the Venereal Disease Information, a magazine published by the Division of Venereal Diseases of the United States Public Health Service, the Salt Lake City authorities have been making a systematic effort to quarantine all men and women found under circumstances which give rise to a reasonable suspicion that they have a venereal disease. Under this rule, any situation which will warrant a reasonable inference that the persons are engaged in prostitution or promiscuity provides legal

sanction for compelling an examination, and, if an infection is shown, to establish a quarantine and enforce treatment. Both men and women are subject to the working of the measure.

This rule was recently put into effect by the Board of Health of Salt Lake City acting in coöperation with the Utah State Board of Health.—*Health News, U. S. Public Health Service.*

There is nothing more important to the world than little children.

Help to give them a chance for good health which is their birthright.—*Connecticut State Department of Health.*

SERVICE NEWS

NEWS RECTIFIED

The Philippine Health Service informed the press that, contrary to what has been published in the *El Debate* and *La Vanguardia*, the Service has not stopped publishing the number of cases and deaths from dangerous communicable diseases that occur in the City of Manila as well as in the provinces.

The Philippine Health Service considers the press as an important means for disseminating sanitary knowledge to the public.

PHYSICAL EXAMINATION OF SCHOOL CHILDREN

In accordance with the old practice that school children who are to be admitted for the first time to the city schools and those who are to transfer from one school to another are to be physically examined by health officers, the Health Service announced in due time that such examinations would be made on the dates hereunder stated:

1. May 18-23, inclusive, for those to be admitted to the primary schools.
2. May 23-29, for those to be admitted to the elementary schools.
3. June 1-6, for those to be admitted to the high schools.

These children should present themselves at the corresponding health stations during the days specified. Those who are to enter schools south of the Pasig River should present themselves at either the Intramuros school clinic at the central office, Philippine Health Service, or at the Paco Health Station, Paco. Those who are to enter schools north of the Pasig River should present themselves at the Meisic Health Station, Felipe II Street, Meisic.

ASSIGNMENTS

Effective on April 15, 1925, Dr. R. G. Padua has been assigned assistant to the Director of Health.

Dr. L. L. Rizal, Chief, Division of Communicable Diseases was designated Acting Director of Health during the absence of the incumbent who attended the Health Officers' Conference at Laoag.

MARKETS IN THE CITY OF MANILA

A sanitary inspection has been made of the markets in the city. The overcrowding in the markets in Divisoria, Paco, Arranque, Sampaloc, and Blumentritt were found to be such that it is quite impossible to make a thorough cleaning of the premises. If this condition is not quickly remedied, it is feared that it will become an imminent source of danger to public health. An attempt has already been made with the city authorities to improve the existing insanitary conditions at these places, in accordance with the regulations newly approved by the Honorable Secretary of Public Instruction.

INSPECTION OF FACTORIES

In the inspection made of the cigar factories, it was found that the score-rating of a great number of them are falling below 90 per cent, and shows that there has been a certain laxity in the observance of the rules and regulations for the insanitary maintenance. It was, therefore, urged that the managers of such factories should exert every effort to compel their laborers to comply with the existing sanitary rules and regulations in order that the desired result, as is expected by this office, will be forthcoming.

DISCHARGED LEPERS IN CULION

As a result of the treatment being given at the Culion Leper Colony, there are at present 228 native lepers awaiting discharge or parole. These were collected from the different provinces and were positive for leprosy at the time they were taken to the Colony. They were subjected to an intensive treatment, as a result of which they were rendered negative. This number does not include those that have been already discharged or paroled from the colony. The total number of lepers who have been rendered negative since the beginning of the campaign will approximately be 435.

Anybody who is familiar with the result of the treatment of this disease in other countries cannot help but feel amazed at the wonderful success obtained in the Culion Leper Colony as well as in San Lazaro Hospital at Manila and the Cebu Leprosarium at Cebu. Some weeks ago, there was given a wide publicity in the newspapers concerning four cases that became negative at the United States National Leprosarium at Carville, Louisiana. Such being the case, our results which are almost a hundred times better than the success obtained at the Leprosarium, must certainly be astonishingly remarkable.

Letters have been received from the relatives of these lepers that the latter are assuredly welcome at their own homes. In this connection, however, no negative leper is released from the colony without a definite proof that he will have a proper lodging at Manila or Cebu.

MISINFORMATION

Contrary to what has been published in one of the local press, there has been no material change in the incidence and mortality rates in the Province of Cebu. In fact, the death-rate has been around 14 to each 1,000 population, which was still below the normal line of the health barometer. The incidence from typhoid fever, dysentery, and other water-borne diseases were likewise kept below the endemic rate for the province. In other words, the information given by the press about two weeks ago was rather misleading, not to say erroneous.

LEPROSY REPORT READ IN THE MAYO CLINIC

Dr. Casimiro Lara of this Service, who is now studying at the Mayo Clinic, Rochester, Minnesota, read before the members of the staff a paper on March 11, 1925, on the status of the leprosy problem in the Philippines. He summarized the history of the disease in the Islands, the care of lepers before and after the American occupation, the establishment of hospitals and the segregation at the Culion Leper Colony. He stated that greater

chances of recovery are assured if the patients submit to treatment with five years after the onset of the disease. This fact should appeal to those who are afflicted with leprosy so that they still have a chance to get cured; and the sooner they present themselves to the health authorities, the better. Even the most advanced will have a chance to recover, if he is given the leprosy treatment that is now being employed by the Service.

His paper was discussed and it was pointed out that one of the potent obstacles to greater success in the present system was the lack of sufficient appropriation. If this is remedied and the treatment is given so as to suit existing conditions in the Islands, the disease will not only be limited in its incidence, but that many actual useless citizens affected with the disease will be made useful.

P. H. S. OFFICERS ATTENDED THE NORTHERN LUZON HEALTH OFFICERS ASSEMBLY

Dr. Eugenio Hernando, Chief, Division of Metropolitan Sanitation; Dr. Gabriel Intengan, Chief, Division of Provincial Sanitation; Mr. Manuel Mañosa, Chief, Office of Sanitary Engineering; and Dr. Regino G. Padua, Assistant to the Director, attended the Northern Luzon Health Officers' Assembly at Laoag, Ilocos Norte, which was held on April 24, 1925.

DR. RIVERA SAYO AT JOHNS HOPKINS

Dr. Vicente Rivera Sayo reports that during the months of January and February, he was taking in the School of Hygiene and Public Health of the Johns Hopkins University the following subjects: Epidemiology 1 and 2, Bacteriology 1, Public Health Problems, International Health Problems and Quarantine, Social Economics, and Selected Topics in Hygiene. He states that his class was given various problems dealing with epidemiology and bacteriology. Lectures were given on the other subjects. Besides these, he also attended the usual De Lamar lectures given weekly.



GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of March, 1925)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1925

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,340
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,685
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,320
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	15,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

1 Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, MARCH, 1925

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	761.51	25.3	34.0	5	20.0	10	27.8	28.2
11-20.....	59.32	26.6	35.1	20	20.4	18	28.4	29.0
21-31.....	58.98	27.4	35.1	26	21.8	22	29.1	29.5

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	76.1	88.9	8	69.6	6
11-20.....	71.5	76.7	12	66.0	20
21-31.....	69.5	73.2	30	65.1	25

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	NE quad	1,467.0	237.0	3	37.3	5.5	5
11-20.....	SE	1,691.0	226.5	17	57.2	7.2	17
21-31.....	SE	2,103.5	227.5	22	67.5	8.6	21

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	22 25	6 35	9	17.7	4
11-20.....	71 20	9 25	13	0	0
21-31.....	71 40	9 25	21	1.6	1

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instrument mounted in the Observatory park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans.....	4	4	8	30.08
Filipinos.....	684	606	1,290	53.16
Spaniards.....	1	2	3	18.08
Other Europeans.....	1	.....	1	10.46
Chinese.....	26	21	47	31.01
All others.....	3	3	6	32.34
Total and average.....	719	636	1,355	51.15

BIRTHS REPORTED IN THE CITY OF MANILA—Continued

BIRTHS BY DISTRICTS

Districts	Legitimates			Illegitimates			Grand total	Annual birth rates per 1,000
	Male	Female	Total	Male	Female	Total		
No. I, Meisic:								
1. Tondo.....	174	156	330	11	4	15	345	51.67
2. San Nicolas.....	34	32	66	8	3	11	77	31.93
3. Binondo.....	19	19	38	.....	1	1	39	26.76
Total.....	227	207	434	19	8	27	461	48.71
No. II, SAMPALOC:								
4. Santa Cruz.....	70	61	131	3	4	7	138	31.95
5. Quiapo.....	28	15	43	.....	2	2	45	34.31
6. San Miguel.....	16	8	24	2	2	4	28	76.36
7. Sampaloc.....	114	119	233	7	10	17	250	76.16
Total.....	228	203	431	12	18	30	461	49.68
No. III, PAGO:								
8. Port Area.....	1	1	2	.....	.....	.....	2	5.02
9. Intramuros.....	36	30	66	2	2	4	70	57.88
10. Ermita.....	29	36	65	3	2	5	70	52.45
11. Malate.....	75	68	143	3	5	8	151	110.87
12. Pao.....	45	25	70	5	1	6	76	57.32
13. Pandacan.....	17	14	31	2	1	3	34	70.14
14. Santa Ana.....	14	15	29	1	.....	1	30	54.35
Total.....	217	189	406	16	11	27	433	64.95
Grand total.....	672	599	1,271	47	37	84	1,355	51.15

Attended by physicians, living.....	359	Stillbirths	18
Attended by midwife, living.....	154	Stillbirths	1
Attended by family, living.....	842	Stillbirths	17

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	5	.....	5	18.80
Filipinos.....	277	244	521	21.47
Spaniards.....	2	.....	2	12.05
Other Europeans.....	.....	2	2	15.18
Chinese.....	21	.....	23	21.56
All others.....	3	1	4	.....
Total and average	308	247	555	20.95

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married.....	114	82
Divorced.....	1	.....
Widowed.....	26	58
Single.....	228	144
Condition not stated.....	1	1
Total.....	370	285
Grand total.....	655	

Stillbirths	36
Number of deaths with medical attendance.....	395
Number of deaths without medical attendance.....	260

DEATHS BY DISTRICTS AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Districts	Deaths	Annual death rates per 1,000
No. I, MEISIC:		
1. Tondo	172	25.76
2. San Nicolas	42	17.41
3. Binondo	14	9.61
Total	228	21.62
No. II, SAMPALOC:		
4. Santa Cruz	85	19.68
5. Quiapo	19	14.49
6. San Miguel	15	40.91
7. Sampaloc	98	29.86
Total	217	23.38
No. III, PACO:		
8. Port Area	2	5.02
9. Intramuros	25	20.67
10. Ermita	13	9.74
11. Malate	24	17.62
12. Paco	23	17.35
13. Pandacan	10	20.64
14. Santa Ana	13	23.55
Total.....	110	16.50
Grand total.....	555	20.95

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	101	55	14	11	181
1 year plus	17	21	2	2	42
2 years plus	16	18	1	1	31
3 years plus	11	3			14
4 years plus	2	1	1		4
5 to 9 years	9	8	1	1	19
10 to 14 years	6	3			9
15 to 19 years	8	9	1	4	22
20 to 24 years	11	10	8	5	34
25 to 29 years	19	9	6	1	35
30 to 34 years	12	11	4	3	30
35 to 39 years	14	11	3	2	30
40 to 44 years	13	10	6	1	30
45 to 49 years	14	12			26
50 to 54 years	14	12	2	2	30
55 to 59 years	11	9	5	1	26
60 to 64 years	9	12	4		25
65 to 69 years	6	7	1	1	15
70 to 74 years	3	4	1	1	9
75 to 79 years	1	6	1	1	9
80 to 84 years	3	9		1	13
85 to 89 years	3	2			5
90 to 94 years	3	6			9
95 to 99 years	2	1			3
100 years and over		3			3
Age not stated			1		1
Total	308	247	62	38	655

TABLE OF DEATHS FROM ALL CAUSES, AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH AND MUNICIPAL DISTRICTS

Age groups	Health districts											
	No. 1, Meisic				No. 2, Sampaloc							
	No. 1 Tondo		No. 2 San Nicolas		No. 3 Binondo		No. 4 Santa Cruz		No. 5 Quiapo		No. 6 San Miguel	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year.....	34	20	6	3	3	3	12	6	4	2	1	2
1 year plus.....	6	10	1	1	1	1	3	4	1	2	3	5
2 years plus.....	6	4	1	2	1	1	3	2	1	1	2	3
3 years plus.....	4	1	1	1	1	1	1	1	1	1	2	1
4 years plus.....	4	1	1	1	1	1	1	1	1	1	1	1
5 to 9 years.....	1	1	1	1	1	1	1	1	1	1	1	1
10 to 14 years.....	6	2	1	1	1	1	1	1	1	1	1	1
15 to 19 years.....	2	1	1	1	1	1	4	2	1	1	1	1
20 to 24 years.....	1	2	1	1	1	1	2	1	1	1	1	1
25 to 29 years.....	4	4	2	1	2	1	4	1	1	2	1	1
30 to 34 years.....	4	3	4	1	1	1	2	1	1	1	1	1
35 to 39 years.....	4	3	4	1	1	1	2	1	1	1	1	1
40 to 44 years.....	5	1	1	1	1	1	2	1	1	1	1	1
45 to 49 years.....	2	2	1	2	1	1	2	3	1	1	1	1
50 to 54 years.....	2	2	1	2	1	1	4	2	1	1	1	1
55 to 59 years.....	4	4	3	4	1	1	1	2	1	1	1	1
60 to 64 years.....	1	3	1	1	1	1	3	1	1	1	1	1
65 to 69 years.....	1	2	1	1	1	1	1	1	1	1	1	1
70 to 74 years.....	1	1	1	1	1	1	1	1	1	1	1	1
75 to 79 years.....	1	1	1	1	1	1	1	1	1	1	1	1
80 to 84 years.....	1	1	1	1	1	1	1	1	1	1	1	1
85 to 89 years.....	1	1	1	1	1	1	1	1	1	1	1	1
90 to 94 years.....	1	1	1	1	1	1	1	1	1	1	1	1
95 to 99 years.....	1	1	1	1	1	1	1	1	1	1	1	1
100 years and over.....	1	1	1	1	1	1	1	1	1	1	1	1
Age not stated.....	1	1	1	1	1	1	1	1	1	1	1	1
Total.....	93	79	25	17	10	4	45	40	9	10	8	7
Grand total.....	172	42	14	15	19	8	57	98	15	15	15	15

TABLE OF DEATHS FROM ALL CAUSES, AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH AND MUNICIPAL DISTRICTS—Continued

Age groups	Health districts															Total		Grand total
	No. 3, Paco																	
	No. 8 Port Area		No. 9 Intramuros		No. 10 Ermita		No. 11 Malate		No. 12 Paco		No. 13 Pandacan		No. 14 Santa Ana					
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
Under 1 year.....		1	5	3	4	1	4	6	6	1	1	1	2	3	101	55	156	
1 year plus.....			1		1		1		1	1	1				17	21	38	
2 years plus.....							1	1	1	1					16	13	29	
3 years plus.....							1	1	1	1					11	3	14	
4 years plus.....							1			2					2	1	3	
5 to 9 years.....															9	8	17	
10 to 14 years.....															6	3	9	
15 to 19 years.....								2	1	1		1			8	9	17	
20 to 24 years.....							1	1	1	1					11	10	21	
25 to 29 years.....	1		2	3	1			1	1	1		1			19	9	28	
30 to 34 years.....					1			1	1	1					12	11	23	
35 to 39 years.....			1	2						1	1	1			14	11	25	
40 to 44 years.....			1							1	2		1		13	10	23	
45 to 49 years.....			1		1		1	1	1	1			1	1	14	12	26	
50 to 54 years.....			1				1	1	1	1			1	1	11	9	20	
55 to 59 years.....			1		1					1	1				11	9	20	
60 to 64 years.....															6	7	13	
65 to 69 years.....															3	4	7	
70 to 74 years.....															1	6	7	
75 to 79 years.....										1					3	9	12	
80 to 84 years.....				1				1	1	1					3	2	5	
85 to 89 years.....				1								1			3	6	9	
90 to 94 years.....															2	1	3	
95 to 99 years.....																		
100 years and over.....																		
Age not stated.....																		
Total.....	2	15	10	4	9	4	12	12	14	9	6	4	5	8	308	247	555	
Grand total.....	2	25	13	13	24	23	10	13	308	247	555							

[Stillbirths not included]

[illegible]

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
II. General diseases not included in class I.—Continued														
49	Cancer and other malignant tumors of other or unspecified organs.													1
52	Chronic rheumatism, osteoarthritis, gout.				1									1
53	Scurvy.			1										1
55	Beriberi:													
	a. Infants.			28	11									40
	b. Adults.			1	1									2
56	Rickets.													1
57	Diabetes mellitus.													1
60	Diseases of the thyroid gland:													
	a. Exophthalmic goiter.				1									1
62	Diseases of the thymus gland.													1
65	Leukemia and Hodgkin's disease:													
	a. Leukemia.			1										1
66	Alcoholism (acute or chronic).			1										1
III. Diseases of the nervous system and of the organs of special sense														
70-86														
71	Meningitis:													
	a. Simple meningitis.			1	3									4
	b. Nonepidemic cerebrospinal meningitis.				1									1
74	Cerebral hemorrhage, apoplexy:													
	a. Cerebral hemorrhage.				6									6
	b. Cerebral embolism and thrombosis.			1										1
77	Other forms of mental alienation.			4	3									7
80	Infantile convulsions (under 5 years of age).			1	1									2
84	Other diseases of the nervous system.				1									1
86	Diseases of the ear and of the mastoid process:													
	a. Diseases of the ear.			1	1									2
IV. Diseases of the circulatory system														
87-96														
88	Endocarditis and myocarditis (acute).													5
89	Angina pectoris.			2	2									4
90	Other diseases of the heart.				1									1
91	Diseases of the arteries:			1	7									8
	b. Arteriosclerosis.													2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

200

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
153	Acute abscess.			1										1
154	Other diseases of the skin and annexa.			3	2									5
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema			22	15									37
161	Premature birth; injury at birth:													
	a. Premature birth (not stillborn).	1		5						2				8
	b. Injury at birth.	1			1									2
162	Other diseases peculiar to early infancy			3										3
164	<i>XIII. Old age</i>													
	Senility.			10	18									28
165-206	<i>XIV. External causes</i>													
165-206	Accidental drowning.									1				1
182	Accidental traumatism by other crushing (vehicles, railways, ladders, etc.).													
188	a. Railroad accident.			1										1
204-206	<i>XV. Ill-defined diseases</i>													
205	Cause of death not specified or ill defined:													
	b. Not specified or unknown.			1										1
	Total.	5		277	244	2				21	2	3	1	555
	Grand total.	5		521		2				32		4		

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 86 hours	86 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough					1	1
11. Influenza:						
a. With pulmonary complications specified					2	2
16. Dysentery:						
b. Bacillary					1	1
21. Erysipelas					2	2
29. Tetanus:						
a. Umbilical				3		3
b. Others					1	1
31. Tuberculosis of the respiratory system					1	1
37. Disseminated tuberculosis:						
a. Acute					1	1
53. Scurvy					1	1
55. Beriberi:						
a. Infants		1		4	44	49
71. Meningitis:						
a. Simple meningitis					1	1
80. Infantile convulsions	1				1	2
99. Bronchitis:						
a. Acute					22	22
b. Chronic					2	2
100. Bronchopneumonia:						
a. Bronchopneumonia					20	20
b. Capillary bronchitis					3	3
101. Pneumonia:						
a. Labor					2	2
109. Diseases of the pharynx and tonsils (including adenoid vegetations):						
b. Others under this title					1	1
112. Other diseases of the stomach (cancer excepted)	1					1
118. Diarrhea and enteritis					6	6
128. Acute nephritis					3	3
136. Nonvenereal diseases of the male genital organs					1	1
154. Other diseases of the skin and annexa					5	5
160. Congenital debility, icterus, and sclerema						
161. Premature birth; Injury at birth:						
a. Premature birth (not stillborn)	7	1				8
b. Injury at birth (not stillborn)	1	1				2
162. Other diseases peculiar to early infancy		1		1	1	3
Total	18	8	1	23	131	181

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	19,561
Number of rats caught by spring traps	2,772
Number of cage-wire traps set	744
Number of rats caught by cage-wire traps	12
Number and kind of baits (coconuts)	20,305
Number of poison portions placed	14,580
Number of rats found poisoned	411
Number of rats killed by clubs and other weapons	1,188
Number of rats found dead from other causes	678
Total number of rats otherwise caught, found dead, or killed	5,061
Total number of rats sent to the laboratory for examination	5,061
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF MARCH, 1925, CITY OF MANILA
CONFIRMED CASES

Health district	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths				
I.....	5	1	4	1					5	1	4	1	9	1
No. 1.....	3	1	2						3	1	2		5	1
No. 2.....	1								1				1	
No. 3.....	2	1	6	1					2	1	6	1	8	2
No. 4.....	4		1		1				5		1		6	
No. 5.....	1								1				1	
No. 6.....	7	3	1	1	1				8	3	1	1	9	4
No. 7.....									1				1	
No. 8.....	5		2	1					5		2	1	7	1
No. 9.....	1								1				1	
No. 10.....	4								4				4	
No. 11.....			1								1		1	
No. 12.....	1								1				1	
No. 13.....			7	2										
No. 14.....	16	4							16	4	7	2	23	6
Transients.....														
Total.....	50	9	24	6	2				52	9	24	6	76	15

REMARKS:	83
Total cases reported within the month in the City of Manila.....	58
Resident cases.....	25
Non-resident cases.....	0
Foreign cases.....	15
Total deaths reported within the month in the City of Manila.....	9
Deaths among resident cases.....	6
Deaths among non-resident cases.....	0
Deaths among foreign cases.....	74
Total cases confirmed as typhoid fever.....	0
By Autopsy.....	3
By blood culture.....	6
By urinal reaction.....	0
By urine examination.....	1
By feces examination.....	64
By clinical symptoms.....	2
Cases confirmed as paratyphoid fever.....	7
Total cases not confirmed.....	

Typhoid Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF MARCH, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	2		1		1	1	1	1	3	1	2	1	5	2
{No. 1.....														
{No. 2.....														
{No. 3.....	1								1				1	
{No. 4.....														
{No. 5.....														
{No. 6.....														
{No. 7.....					1	1	1	1	1	1	1	1	2	2
{No. 8.....														
{No. 9.....					1	1			1	1			1	1
{No. 10.....					1									
{No. 11.....														
{No. 12.....	1				1	1			2	1			2	1
{No. 13.....														
{No. 14.....	1	1	1	1					1	1	1	1	1	1
Transients.....	1								1	1			2	2
Total.....	6	2	2	1	5	4	2	2	11	6	4	3	15	9

REMARKS:

Total cases reported within the month in the City of Manila.....

15

Resident cases.....

13

Non-resident cases.....

2

Total deaths reported within the month in the City of Manila.....

9

Deaths among resident cases.....

7

Deaths among non-resident cases.....

2

Total cases not confirmed as dysentery.....

0

Dysentery Carrier—None.

CHOLERA REPORTED DURING THE MONTH OF MARCH, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.	No. 1.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 2.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 3.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 4.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
II.	No. 5.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 6.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 7.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 8.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
III.	No. 9.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 10.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 11.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 12.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 13.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	No. 14.	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	Transients	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....
	Total	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....		.....	.....

REMARKS:

Total cases reported within the month in the City of Manila

Resident cases.....

Non-resident cases.....

Foreign cases.....

Resident cases not confirmed as cholera.....

Non-resident cases not confirmed as cholera.....

Total deaths reported within the month in the City of Manila

Deaths among resident cases confirmed as cholera.....

Deaths among non-resident cases confirmed as cholera.....

Cholera Carrier—4

DIPHTHERIA REPORTED DURING THE MONTH OF MARCH, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	1	1							1	1			1	1
No. 1.....														
No. 2.....														
No. 3.....														
No. 4.....	2	1							2	1			2	1
No. 5.....														
No. 6.....														
No. 7.....	2	1							2	1			2	1
No. 8.....														
No. 9.....														
No. 10.....														
No. 11.....			1								1		1	
No. 12.....														
No. 13.....														
No. 14.....	3	2							3	2			3	2
Transients.....														
Total.....	8	5	1						8	5	1		9	5

REMARKS:

Total cases reported within the month in the City of Manila

18

Resident cases.....

12

Non-resident cases.....

6

Resident cases not confirmed as Diphtheria.....

6

Non-resident cases not confirmed as Diphtheria.....

3

Total deaths reported within the month in the City of Manila

5

Deaths among resident cases confirmed as Diphtheria.....

3

Deaths among non-resident cases not confirmed as Diphtheria.....

0

Deaths among non-resident cases confirmed as Diphtheria.....

2

Diphtheria Carrier—None.

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF MARCH, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	9	4	1	1
Varicella	24	15		
Varioloid				
Smallpox				
Measles	6	1		
Whooping cough	1		1	
Influenza	16	3	6	1
Bubonic plague				
Encephalitis lethargica	2	1		
Meningitis cerebrospinal epidemic	1	1	1	1
Pulmonary tuberculosis	139	113	63	63
Tuberculosis of all forms	8	8	6	8
Beriberi, infantile	29	11	29	11
Beriberi, adult	1	1	1	1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	8		4	
Varicella	6	3		
Varioloid				
Smallpox	1			
Measles	3			
Whooping cough				
Influenza	3			
Bubonic plague				
Encephalitis lethargica				
Meningitis cerebrospinal epidemic	2			
Pulmonary tuberculosis	23	16	10	5
Tuberculosis of all forms	1	1	1	1
Beriberi, infantile	5	4	5	4
Beriberi, adult				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF MARCH, 1925**

Sera and vaccines	On hand March 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	820,000		820,000	430,000	390,000
Anti-dysenteric serum (ampoules)	71		71	42	29
Anti-tetanic serum (units)		174,000	174,000	174,000	
Cholera vaccine (c. c.)	77,290		77,290	14,100	63,190
Dried vaccine virus (c. c.)	60,900	66,000	126,900	90,950	35,950
Fresh vaccine virus (units)	66,700	200,000	266,700	203,500	63,200
Gonococcus vaccine (ampoules)		75	75	75	
Mixed cholera-typhoid vaccine (c. c.)	32,680	42,000	74,680	63,540	11,140
Normal horse serum (ampoules)		50	50	50	
Streptococcus vaccine (ampoules)		50	50	50	
Typhoid vaccine (c. c.)	15,360	12,000	27,360	11,460	15,900

**SMALL-POX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF MARCH, 1925**

(No case and no death reported during the month)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF
MARCH, 1925**

(No case and no death reported during the month)

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1925

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated								
		Total vaccina- tions	Previously vaccinated		Unsuc- cessfully	Under 1 year		1 to 4 years		5 years and over		Total	
			Never	Success- fully		Positive	Negative	Positive	Negative	Positive	Negative		
No. 1.....	Tondo.....	2,248	303	1,897	48	284	11	58	215	98	853	440	1,079
	San Nicolas.....	2,236	152	2,058	26	166	5	15	14	3		184	19
	Binondo.....	1,028	96	923	9	112	5	2	1			114	5
	Santa Cruz.....	4,045	200	2,620	1,225	148	5	29	1	1,296	1,217	1,473	1,223
	Quiapo.....	280	65	212	3	65		6	1			71	1
No. 2.....	San Miguel.....	18	17		1	20	1					20	1
	Sampaloc.....	218	130	86	2	99	3	8	3			107	6
	Port Area.....												
	Intramuros.....	387	58	321	8	58	7	14	2			72	9
	Ermita.....	279	36	228	15	45	4	9	11			54	15
No. 3.....	Malate.....	193	50	128	15	56	8	11	7			67	15
	Paco.....	447	87	345	15	82	4	12	4			94	8
	Pandacan.....	142	54	86	3	60	3					60	3
		41	38		3	64	3					64	3
	Santa Ana.....												
Total.....		11,562	1,286	8,903	1,373	1,259	59	164	259	1,397	2,070	2,820	2,388

Vaccine virus:

Received.....	28,000
Used.....	18,550
Remained.....	4,550

Health districts	Municipal districts	Number of injections made in—												Total number of injections			
		Adults						Children						First		Second	
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		V.	R.	V.	R.
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.				
No. 1.	Tondo.....	805	132	310	790	295	313	427	71	187		159		1,232	203	497	454
	San Nicolas.....		637		481		448	8	53	6	27	3	18	8	674	6	97
	Binondo.....		621		563		926	17	24	14	28	23	52	87	678	98	508
	Santa Cruz.....	70	654	34	365	27	361	16	18	6	26	1	15	42	226	14	591
No. 2.	Quiapo.....	26	208	8	262		350	3	17	2	21	3	22	3	210	3	391
	San Miguel.....		193	1	550		478	8	65		56	3	40	69	651	48	283
	Sampaloc.....	61	536	48	550	61	478	8	65		56	3	40	69	651	48	606
	Port Area.....	66	149	29	47	27	62	13	11	4	7	1	4	79	160	33	54
No. 3.	Intramuros.....		484	15	254		123	115	91	43	24	108	500	115	575	58	108
	Ermita.....	76	228	41	133	41	112	8	13	4	12	6	11	84	241	45	278
	Malate.....	79	187	48	185	35	114	9	14	5	6	3	6	88	201	53	145
	Paco.....	109	783	920	174	393	433	2	98	11	56	10	41	111	881	931	91
	Pandacan.....	37	149	18	68	4	39	31	38	21	18	1		68	187	39	230
	Santa Ana.....	47	235	33	293	12	133	35	25	27	20	10	5	82	260	60	86
Total.....		1,376	5,246	1,555	4,065	1,001	3,890	692	541	330	301	428	714	2,068	5,787	1,835	4,366
																	4,604

¹ Mixed typhoid and cholera vaccine used for the first and second injections

Typhoid and paratyphoid vaccine for the third injections.

V, in persons never vaccinated before; R, revaccinations.

CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹

Provinces	Vaccinations			Inspection of persons vaccinated				Total	
	Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over	
		Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Positive
Abra.....	174	73	23	78	23	13	33	28	36
Aguasan.....	316	239	10	67	34	40	30	24	7
Albay.....	9,079	2,576	2,412	4,091	716	281	817	355	1,051
Bataan.....	2,250	377	1,064	809	351	56	553	366	1,384
Batangas.....	8,099	2,641	1,551	3,907	1,017	171	1,706	469	1,471
Bohol.....	4,388	886	1,836	1,666	375	78	563	277	1,041
Bulacan.....	13,972	4,842	4,963	4,167	2,176	240	2,915	642	1,529
Cagayan Norte.....	1,125	455	1,163	3,127	757	103	1,525	208	1,284
Camagines Norte.....	8,735	1,232	5,160	303	303	85	290	90	222
Camarinia Sur.....	2,903	2,903	2,344	2,458	963	119	740	247	4,284
Capiz.....	8,648	2,903	2,285	2,458	963	137	1,392	514	2,396
Catanduanes.....	13,129	1,958	7,661	3,510	1,260	133	2,409	476	1,72
Cavite.....	22,009	5,923	6,433	9,633	1,545	1,158	2,801	394	6,142
Cebu.....	1,370	321	396	633	72	45	180	79	391
Cotabato.....	328	27	220	81	19	6	173	119	200
Culion Leper Colony.....	499	213	168	183	66	22	67	32	158
Iloos Norte.....	3,290	1,840	160	1,590	996	137	838	207	348
Iloos Sur.....	6,282	2,955	496	1,531	950	77	1,178	256	692
Iloilo.....	3,433	820	1,564	1,049	32	32	1,707	153	3,114
Isabela.....	7,560	2,711	1,864	2,985	1,098	380	1,336	515	680
Laguna.....	4,256	986	1,633	1,637	474	87	842	483	2,042
La Union.....	13,683	4,774	2,318	6,591	1,276	466	1,918	684	892
Leyte.....	1,626	377	669	580	181	58	145	44	261
Marikue.....	2,876	754	677	945	194	119	242	119	286
Maribato.....	2,337	836	443	758	194	74	300	164	482
Misamis.....	2,279	526	1,052	721	97	4	1,989	100	491
Mountain Province.....	6,648	3,542	1,102	2,004	1,345	282	1,989	498	918
Nueva Ecija.....	6,155	3,155	1,142	1,858	66	7	1,118	54	426
Nueva Vizcaya.....	6,185	1,458	1,627	2,119	1,175	276	1,162	319	1,225
Occidental Negros.....	6,214	1,575	2,214	1,575	150	150	885	418	1,315
Pampanga.....	6,638	1,875	2,212	2,721	774	157	1,541	164	1,270
Pangasinan.....	6,591	3,190	3,301	3,100	1,819	163	1,895	358	954
Rizal.....	9,869	1,848	6,336	1,585	1,037	128	1,673	407	2,079
Sulu.....	6,492	2,580	2,060	1,862	625	111	737	311	1,920
Ta'lac.....	5,307	1,198	2,967	1,162	825	111	858	276	1,254
Tayabas.....	4,760	1,874	1,318	1,778	537	94	213	99	1,453
Zamboanga.....	1,563	763	1,132	618	180	180	213	99	219
Total.....	208,729	64,782	67,073	76,874	24,503	6,071	33,922	10,929	50,190
									108,615
									52,580

¹ Incomplete: reports from other provinces not yet received.

CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹

Provinces	Number of injections made in—												Total number of injections		
	Males						Female								
	First injections		Second injections		Third injections		First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	First	Second	Third
Antique...															
Albay...															
Bataan...															
Bohol...															
Bulacan...	252	86	234	79	217	72	275	87	261	79	245	68	700	653	602
Camarines Sur...															
Catanduanes...	21	1	1	1			2	2					26	2	
Cebu...															
Cotabato...															
Ilocos Sur...															
Iloilo...	44	30	12	6	10	6	72	16	34	2	42	2	162	54	60
La Union...															
Leyte...															
Marinduque...															
Masbate...															
Nueva Ecija...															
Nueva Vizcaya...															
Oriental Negros...															
Pampanga...															
Pangasinan...	78	29	25	11			47	60	10	13			214	59	
Sulu...															
Tayabas...															
Total...	395	146	272	97	227	78	396	165	305	94	287	70	1,162	768	662

¹ Incomplete; reports from other provinces not yet received.
A, means persons of 15 and over 15 years of age; C, below 15 years of age

CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925.

Provinces	Number of injections made in—										Total number of injections		
	Males						Females						
	First injections		Second injections		Third injections		First injections		Second injections			Third injections	
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.		A.	C.
Antique.....	100	174	26	32			82	165	27	36	521	121	
Albay.....	10	5	17				12	6	11		34	28	
Bataan.....	120	9	50				82	2	53	3	213	106	
Bohol.....	181	41	116	41			198	121	121	100	541	378	
Bulacan.....	376	154	290	122			365	145	272	107	1,040	791	
Camarines Sur.....	234	137	110	147			177	93	35	63	761	355	
Catanduanes.....	1,222	839	343	137			1,039	637	341	134	3,737	955	
Cebu.....	111	86	277	71			3	104	184	121	114	653	
Cotabato.....	306	78	62	45			86	67	54	19	314	180	
Iloilo.....	83	149	139	272			249	123	76	197	881	694	
La Union.....	360	46	48				40		172		86	220	
Leyte.....	46	297	121	171			169	283	92	135	908	519	
Marinduque.....	159		67						33		4	100	
Maabaga.....	4		33	8			50	8	51	20	93	112	
Nueva Ecija.....	31	4	83	142			30	171	30	171	399	396	
Nueva Vizcaya.....	53	142	63				150	38	16	7	536	49	
Oriental Negros.....	286	41	21	5			2,548	1,986	1,481	1,547	9,017	6,399	
Pampanga.....	1,974	2,569	1,223	2,148			221	293	166	196	4,072	707	
Pangasinan.....	246	312	118	227			3		2		24	19	
Sulu.....	21		17				159	17	35	8	567	205	
Tayabas.....	249	132	83	79									
Total.....	6,231	5,169	3,214	3,647			5,945	4,259	3,252	2,864	21,594	12,977	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 16 and over 15 years of age; C, below 15 years of age.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

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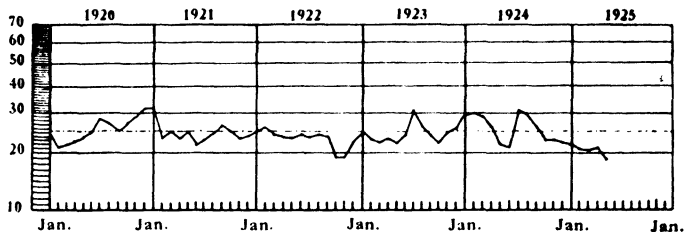
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No health department, state or local can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring. U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



..... Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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MAY, 1925

No. 5

**ON THE RELATION OF AGGLUTININS PRODUCED IN
THE BLOOD OF VACCINATED FILIPINA MOTHERS
AND IN THE BLOOD OF THEIR UNVACCINATED
NURSING INFANTS¹**

By Drs. L. LOPEZ-RIZAL, M. V. ARGUELLES, and H. LARA

When extensive general antityphoid vaccination was instituted more rigidly among the population of the City of Manila, it occurred to us that it would be of interest to know what effect the vaccination would have upon the suckling babies of vaccinated mothers, even though the sucklings were not themselves vaccinated. Consequently, a number of Filipina mothers with their suckling babies, who came regularly to the Health Service clinics, were selected for the purpose of this study. A group of mothers was submitted to immunization with T. A. B. vaccine, and another group to the mixed T. A. B. C. vaccine for purposes of comparison. All of the mothers were given the regular three doses of the vaccine with the ordinary interval between doses of about six to ten days. The suckling were not submitted to injection of the vaccine. A few days after the last injection of the vaccine, samples of blood in Wright's capillary tubes were obtained at the same hour and day from each mother and her child separately. The samples were examined in the laboratory of San Lazaro Hospital and the titer determined in the following manner:

MICROSCOPIC

Preparation of specimen.—The blood is obtained by pricking the lobe of the ear or the tip of a finger previously disinfected,

¹ Read before the Joint Annual Meeting of the Philippine Islands Medical Association and the Manila Medical Society held on December 17-20, 1924.

and collecting in a Wright's tube to the amount of 0.5 cubic centimeter at least. The blood is allowed to clot, to allow the serum to be separated. For making the dilution, the Wright's tube is broken at its middle and the serum is obtained by using a glass dropper with a small tip.

Suspension.—The suspension is made from a twenty-four-hour growth of typhoid, Paratyphoid A, and Paratyphoid B in agar slant. Before making the test a suspension of each of these organisms is made by taking one loopful from the agar slant and suspending in about 5 cubic centimeters of sterile or boiled distilled water.

Dilution.—Dilution is made as follows:

Take a series of four clean small porcelain saucers or watch glasses. In the first one place nine drops of sterile or boiled distilled water, one drop in the second, two drops in the third, and three drops in the fourth, using the same glass dropper with a small tip. With the same glass dropper, add a drop of serum on the first saucer and mix, making a $\frac{1}{10}$ dilution. Then place one drop of the $\frac{1}{10}$ dilution on each of the second, third, and fourth saucers, making $\frac{1}{20}$, $\frac{1}{30}$, and $\frac{1}{40}$ dilutions, respectively.

Using a greased or vaselined micro-cover glass of about 40 by 70 millimeters place in a row four loopfuls of the typhoid emulsion, four loopfuls of Paratyphoid A emulsion, and four loopfuls of Paratyphoid B. Then place side by side to each loopful a loopful of the $\frac{1}{10}$ dilution of serum, one loopful of the $\frac{1}{20}$, of the $\frac{1}{30}$, and of the $\frac{1}{40}$. Then join the loopfuls of the bacillary suspension and the serum dilutions, making a final dilution of $\frac{1}{20}$, $\frac{1}{40}$, $\frac{1}{60}$, and $\frac{1}{80}$. Place one negative control and one positive control. The positive control consists of a bacillary suspension mixed with a known anti-serum. Place the cover glass in a moist chamber for half an hour at room temperature and then examine under the microscope for agglutination.

Agglutination at $\frac{1}{40}$ dilution is suspicious; at $\frac{1}{60}$ or higher dilution, the suspicion of typhoid infection is stronger.

MACROSCOPIC

The apparatus used is one designed by one of us (M.V.A.) for the performance of a macroscopic Widal which requires only a very small amount of blood. In fact, the macroscopic Widal by the use of this apparatus can be performed after the dilutions

of the serum have been used for microscopic test. The same emulsion is used as for the microscopic.

The dilutions used are the same as those that have been used for the microscopic. A fifth saucer, however, is added in which are mixed four drops of sterile water and one drop of the $\frac{1}{10}$ dilution, making a $\frac{1}{50}$ dilution.

The apparatus is worked as follows:

A clean Jena glass tubing of about 2 millimeters diameter is used. Two marks from the tip are made, one at 1 centimeter and the other at 2 centimeters distance from the tip. Now suck to the 2 centimeters mark from the typhoid suspension which is used as a negative control. Remove the suspension. Suck an air bubble. Suck again from the typhoid suspension to the 1 centimeter mark, and then such from the $\frac{1}{60}$ dilution up to the 2 centimeters mark, making a total dilutions of $\frac{1}{100}$. Then suck an air bubble to be placed between the mixture of $\frac{1}{100}$ dilution and the following mixture of $\frac{1}{80}$ dilution made by sucking up to the 1 centimeter mark of typhoid suspension plus the $\frac{1}{40}$ dilution up to the centimeter mark. Then suck a bubble. Separate the latter from the following dilution, or $\frac{1}{60}$, and so on. Then seal the tip on a Bunsen flame. This sealing steadies the columns with the various dilutions and at the same time sterilizes the tip. Place the glass tube in a perpendicular position overnight and read the next morning with the help of a hand lens. Small particles or clumps are seen in those dilutions that agglutinate. In a very strong reaction there is sometimes formed a white ring at the point of contact of the emulsion and the serum dilution. In some cases a precipitation is observed.

The macroscopic test as performed at the San Lazaro Hospital laboratory requires a technician thoroughly trained in bacteriological technic, as infection can readily take place because of the use of living microorganisms. Any agglutination, or precipitation, or ring formation in the dilution of $\frac{1}{80}$ is suspicious of typhoid infection. At $\frac{1}{100}$ the suspicion is stronger.

It would have been better, for the purpose of comparison, to have determined the titer in the blood of both mothers and babies as well as the titer of the mothers' milk prior to the injection of the first dose of vaccine. For reasons not worth mentioning this was not done. However, we later sent to the laboratory for examination samples of blood obtained from unvaccinated mothers and their suckling babies separately for comparison. The results obtained are presented in Table 1.

TABLE 1.—*Showing the relation of agglutinins in blood of unvaccinated Filipina mothers and their unvaccinated nursing infants.*

Names of mother and child	Result		Dilution	Kind of examination
	Mother	Child		
1. A. Y. and J. R.	—	—	1:50	Microscopic.
2. M. D. and P. M.	—	—	1:50	Do.
3. I. G. and L. B.	—	—	1:50	Do.
4. J. J. and L. S.	—	—	1:50	Do.
5. L. M. and V. B.	—	No exam. made.	1:40	Macroscopic.
6. A. R. and T. L.	—	—	1:40	Do.
7. A. M. and F. V.	—	—	1:40	Do.
8. M. A. and E. V.	+	+	1:40	Microscopic.
9. L. R. and A. L.	+	—	1:40	Do.
10. V. P. and S. D.	+	—	1:40	Do.
11. M. A. and G. O.	+	+	1:50	Do.
12. E. A. and J. O.	—	—	1:40	Do.
13. J. N. and A. R.	—	—	1:40	Do.
14. F. V. and I. R.	+	—	1:40	Do.

NOTE.—The sign — means that the mother received two anti-typhoid injections about ten months ago; + means doubtful reaction.

Table 2 shows results with only the mothers (and their children) who had had three consecutive examinations. A general table (Table 3) and Table 4, however, show the results of all examinations.

The immunization of animals against pathogenic bacteria during pregnancy has been successful. Anderson cited Chaveau, Arloing, Cornevin, and Thomas to have found the young of sheep so immunized to be immune to anthrax; but Ehrlich, using mice,¹ "showed that the male element (sperm) was incapable of transmitting the immunity," and the fact that there was absolutely no immunity observed in the grandchildren of immune mothers led to his conclusion, according to Anderson,¹ that immunity is not inherited in the strict sense of the word. The immunity observed in the progeny of immune mothers was considered to be passively produced through transmission of antibodies to the child from the mother.

Anderson's important and very interesting article¹ states that his "mother exchanged" experiment showed that the antitoxins furnished in intrauterine life did not long (21 days) remain in the young organism. He showed positively that the milk was the vehicle by which the suckling organism received its antitoxin and with the length of the suckling furnishes it with an increasing immunity. The long persistence of the immunity depended upon a transfer of antibodies through the milk. By the immunization of a nursing mother mouse (after birth of the litter)

¹ Anderson, J. F. Maternal transmission of immunity to diphtheria toxin, Hyg. Lab. Bull. No. 30, August, 1906.

TABLE 2.—Showing highest agglutinin titer (microscopic only) compared in the blood of vaccinated mothers and their unvaccinated nursing infants.

[O = Titer below 120; M = Mother; C = Child]

Names of mother and child	B. Typhosus						B. Paratyphosus A.						B. Paratyphosus B.						Vaccine used		
	1st exam.		2nd exam.		3rd exam.		1st exam.		2nd exam.		3rd exam.		1st exam.		2nd exam.		3rd exam.				
	M.		C.		M.		C.		M.		C.		M.		C.		M.			C.	
	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.		M.	C.
(1) U. A. and M. A.	20	20	20	80	20	80	0	0	20	(?)	20	20	20	0	0	0	20	40	20	Plain T. A. B.	
(4) L. B. and L. B.	20	20	20	80	20	80	0	0	0	(?)	20	0	0	0	(?)	20	20	20	40	20	
(7) S. R. and E. C.	40	40	40	40	40	40	0	0	20	0	20	20	20	20	0	20	(?)	20	40	20	
(8) I. C. and G. V.	20	80	80	40	20	40	0	0	0	0	40	0	0	0	0	40	0	0	0	0	
(15) J. E. and F. E.	20	80	20	40	20	40	0	0	0	20	0	20	0	0	0	20	0	20	20	20	
(19) M. I. and F. I.	40	80	80	80	40	40	0	0	0	0	0	20	0	0	20	20	20	(?)	50	20	
(1) F. O. and F. S.	40	80	40	40	20	40	0	0	0	0	40	20	0	0	20	0	20	20	40	20	
(3) J. G. and A. A.	20	20	40	80	20	80	0	0	0	0	20	0	0	0	0	20	20	20	40	20	
(9) F. V. and E. O.	40	40	80	40	80	20	0	0	0	0	0	0	0	0	(?)	20	0	20	20	0	
(11) L. G. and M. M.	20	20	20	40	20	40	20	(?)	20	20	6	0	0	0	0	(?)	20	0	20	0	
(18) M. P. and J. E.	20	40	40	40	40	40	20	(?)	20	20	20	20	20	0	20	20	20	20	20	20	

NOTE.—Only vaccinated mothers and their nursing babies who had three regular examinations were included in this table.

Ehrlich was able to transmit immunity to swine plague to the nursing young.

It is interesting, however, to know that Prof. M. F. Guyer, in a paper read before the American Philosophical Society, stated that he was able to develop an antibody in the blood of successive generations of rabbits by inoculating the germs of typhoid fever. Rabbits of the fourth or fifth generation so treated may be made capable of overcoming an injection equal to that which thirty rabbits could stand.

FINDINGS

The results of our tests in Filipina mothers show that, where there is absence of typhoid agglutinins at a certain dilution in the mother's serum, there is also in the great majority of cases a corresponding absence at the dilution in her nursing unvaccinated infant's serum. When agglutinins are present in the vaccinated mother's serum almost invariably they are also found in the nursing unvaccinated infant's serum. We believe, therefore, that active immunization of the mother after the birth of her infant will cause the appearance of immune bodies in the nursing infant. The mechanism by which the presence of agglutinins in the blood of infants has been made possible is not definitely known. The following, however, may give some light regarding the matter: It is known that agglutinins are present in the milk of immunized mothers² and that diphtheria antitoxins are transmitted through milk; but whether the antibodies are actually transferred by milk from the mother to the suckling young, or some of the immune body-inciting substances (antigen) are transferred through the milk and incite the production of immune bodies in the young, or the transmission of both antigen and antibodies from the mother to the young through milk occurs remains to be investigated.

Our study also shows that the *B. typhosus* agglutinins are present in greater amount than the paratyphoid A and B agglutinins in the vaccinated mothers and their nursing infants. It seems, therefore, that the vaccine we used in the general immunization caused the production of more agglutinins against *B. typhosus* than *B. paratyphosus* A and B. The chief explanation lies probably in the fact that per cubic centimeter of vaccine there are present 500 million *B. typhosus* to 250 million each of the *B. paratyphosus* A and B.

²Reymann, G. C. On the transfer of the so-called normal antibodies from mother to offspring, I, Agglutinins. *Journ. Immunology*, Nos. 3, 5, pp. 227-237.

MEDICAL RELIEFS AND PRACTICES AMONG THE NON-CHRISTIANS OF THE PROVINCE OF AGUSAN

By Dr. JOSE M. RAYMUNDO

Medical Inspector, Philippine Health Service

A physician, or a health officer, stationed among the non-Christian tribes to practice his profession and preach the gospel of his science will necessarily meet difficulties and obstacles in the form of prejudices, superstitions, and erroneous practices transmitted from time immemorial, and handed down from father to son. It is important for the practitioner to know these superstitions and prejudices to enable him to meet and overcome these obstacles properly, if he wishes to accomplish anything at all. To preach his science blindly, not knowing whether his teachings may fall on deaf ears, is futile. It is a failure in the same way that a farmer fails if he does not find out first what kind of a soil he plants on, and be sure that what he is planting is productive.

It is a task that requires more experience and special ability than what I possess to describe in detail the many prejudices, superstitions, traditions, and habits which in some way have some connection with the practice of medicine among Manobos of Agusan. I shall, therefore, try to describe some that I have observed during my inspections in the interior of Agusan Province, the Forty-first Health District. My description will be limited to Manobos and Mamanuas who live around Lake Mainit.

The Manobos attribute most of their sickness or the appearance of epidemics to certain evil spirits or gods. They have a god called "Busao." It is believed to be a cannibal as it is said to eat human liver. A "Tagbusao" is another evil spirit or witch that converts a person into another witch, with ability to cause sickness. "Magbabaya" is a bad spirit or imaginary person, claimed to be the companion of the "diwatero" or "baylan." "Magbabaya" is considered to be a powerful god with evil inclinations. To him is attributed the outbreaks of epidemics or other calamities. These spirits are said to dwell with preference in "baliti" trees, hence the reluctance of the Manobos to cut these trees, else they will incur the disfavor of the god

living thereat. When for some reason they are forced to cut the "baliti," they have to make first some offerings to the god asking his leave to cut the tree. They claim that with these practices they are able to conjure the wrath of the spirit. Note the similarity of this particular tradition of the "baliti" to similar superstitions among other Malay tribes. "Manaug" is a small wooden image having the form of a person representing a god and said to be one of the good gods, he being the god of harvest, having the power to give bumper crops. Manobos also ask his aid whenever they suffer from any eye trouble.

Some of the ailments attributed to gods or evil spirits are tumors, eye sores, swelling of any part of the body, testicles and legs in particular. "Labha" is a common name given to all ailments, and other rare diseases the cause of which is obscure to them. "Habay" is supposed to be inflicted by the "Tagbusao," a witch with power to produce sickness. This same "Tagbusao" is supposed to use poison in infecting diseases called "Kumitan" and patungina." The Manobos believe that any of these ailments will not be cured unless the spirit that caused it is appeased. They claim that medicines administered without being accompanied by presents and offerings to the spirit are useless and that men's knowledge is insignificant as compared with the anger of these gods. The only thing to do to cure these particular diseases is to prepare presents and make offerings to their ill-humored and avenging god, presents which will serve to appease him and make him friendly. The ceremony accompanying the offering of these presents is called "Diwata." There are "Diwatas" for many purposes.

Usually the "diwatero" is also called "Mananambaa" for, besides his knowledge of the treatment of "labha," he also treats other kinds of ailments not caused by evil spirits, like "ompawak," of fever; and "sera," or amenorrhea. This last is attributed to bathing or stepping on hot stagnant water when having the menstrual flow, dysentery, etc. The "diwateros" "Mananambaa" claim to have different ways of diagnosing ailments. One of these ways is as follows: The entire family of the patient, or the family head, usually prepares a white chicken and invites the "diwatero" who arrives in the patient's house at night. He begins the ceremony by cutting the neck of the chicken and sucks the spurting blood at once from the stump of cut neck of the chicken. After drinking it he sits on a hammock and starts to swing slowly, singing meanwhile in a low plaintive voice. A person, one who could understand his

song, sits besides him and answers yes or whatever answer the song requires. From the song of the "diwatero" the diagnosis of the ailment is deduced as well as its appropriate treatment. Once the song is over and the diagnosis and treatment are given the "diwatero" departs, carrying with him, of course, the dead chicken. Nothing is done meanwhile until the following morning when the "diwatero" comes back with the medicine. The following prescriptions with its mode of preparations are used:

For fever: A branch of "anonang" tree, yerbabuena, and "bonganghangin." Peel the bark of the "anonang," squeeze the juice, and mix it with two spoons of water. Squeeze the juice of yerbabuena, "kisal," and "bonganghangin" and mix with the first. The mixture is administered by the patient.

For "sera" or stoppage of menstrual flow: Roots of "sonteng" well boiled in water. This concoction is administered by mouth.

For "ompawak": Pound leaves of "hagonoy," squeeze the juice, and administer by mouth.

For dysentery: Roots of "tambis" facing east. Boil well in water and administer the concoction by mouth.

You will note that these prescriptions are very similar to those used by our "herbolarios" in the Christian provinces. There is no doubt that, besides their ancient traditions, the Manobos are already influenced by some Christian practices as they have been for a long time associated with Butuanon and Visayans, and the Jesuits have done missionary work in their villages.

As regards pre- and post-natal care, they do not have the last idea. Neither are they aware of the dangers of parturition. The only care of the pregnant woman is to avoid going out of the house after 6 o'clock at night, believing that some bad spirit or with harm her and cause her miscarriage or premature birth. (Note the similarity with the "aswang" tradition of Luzon.) During labor no particular care is given to the mother. The cord of the baby in some parts of upper Agusan is cut with a sharpened bamboo stick and ligated. On the stump of the cord powdered burnt coconut shell is applied. No further attention is given the baby except bandaging the abdomen. In some parts of upper Agusan, Gibung district, many do not ligate the cord after cutting, allowing the cord to bleed freely. I was told last year by an eye-witness, one Mr. Bienvenido Blanco, assistant to the governor at that time, that one baby in Prosperidad was allowed to bleed to death. The reason of the old people was that by allowing the blood out

the baby will be free from "Kabuhi" when he grows old. The particular baby was, of course, saved from "Kabuhi" as it died of acute anemia, no doubt, several hours after birth. The parturient woman in most cases stays one day only in bed and the next day attends to all her household duties. In some parts of upper Agusan the woman, immediately after giving birth, goes down to the river herself to wash the soiled clothes used during labor and is then ready for regular work as though nothing had happened to her. A case has been known to have happened in the municipal district of Las Nieves, provincial division of Wawa-Ojot, Agusan Province, in which a pregnant woman, who is still living at present, attended a dance (a regular Christian-Filipino dance). During the dance she felt labor pains and a few minutes after had to go to an apartment of the same house where the dance was being held in order to deliver. Immediately after delivery she left her bed, fixed herself, and continued to dance.

Past experiences have taught the Manobos that outbreaks of epidemic diseases are destructive and therefore dreadful. It is enough that cholera, smallpox, or other epidemic diseases become known to be present in the neighboring settlements to cause a panic among the Manobos. They immediately prepare for the celebration of the "Sundu" to appease the "Magbabaya" and spare their community of his revenge. The "Sundu" is another ceremony of the "diwata," especially offered to counteract the ravages of epidemics, which they consider to be a punishment sent to the community by their great god "Magbabaya." For the celebration of the "Sundu," the following materials are prepared: One low bamboo stool and a receptacle for blood, pig, chickens, eggs, and other kinds of viands. The ceremony starts in the afternoon at about 3 o'clock. The pig is placed on the bamboo stool, and under this the blood receptacle. The chickens, eggs, etc., are cooked in the meantime. The "baylan" or "diwatero" in gala dress and spear in hand begins the ceremony by dancing and singing in a wailing pathetic tune invoking, they say, their god "Magbabaya." He continues thus and in due time thrusts his spearing to the body of the pig, which is then cooked in different ways. Once the pig is cooked it is placed on a bamboo raft, one by one-half meter, profusely decorated with coconut leaves and other decorations. Chickens, eggs, rice, etc., "bunga" (bettlenut), "buyo," "apug" (lime), and tobacco are also placed on the raft which is also lighted with candles from four to six in number. Once the raft is filled with provi-

sions, the "baylan" renews the dancing and singing while orders are given to those attending the ceremony to carry the raft in the middle of the river, leaving it to be carried by the current. The ceremony ends with the placing of the raft in the river which coincides with the close of the day. The "baylan" then invites everybody to eat with him the remainder of the food. The Manobos strongly believe that with this sending of offerings to the "Magbabaya," it will leave the town in peace and unharmed by the epidemic. If in spite of the celebration of the "Sundu" the epidemic continues its ravages in their community they then desert their homes and town leaving the sick unaided and going into the forest where they believe the ire of their "Magbabaya" will not pursue them any further.

They do not have even the slightest notion of hygiene and sanitation nor would they obey restrictive sanitary regulations unless under compulsion and because of fear of punishment. The Manobos are by nature easy-going and lazy, preferring to live on half rations rather than work for the other half. They are consequently underfed, badly clad, and dirty. They do not have any desire to better their standard of living, and their ambition from childhood is to be a "bagani." They are also nomadic by nature and prejudiced against all newcomers. These traits of the Manobos is a strong hindrance to their individual and collective betterment. They do not appreciate fully the real meaning of home and town. They will desert their houses and settlements rather than submit to restrictive rules unless threatened with punishment. They are apparently submissive as they are by nature law-abiding, but they are thus only against their will. Just pay a visit to any Manobo house and your attention will be attracted by the Manobo traits above cited. Order them to clean their house and premises and they will immediately start to comply with orders, but the moment you turn your back they stop to do what they were told to. Have a chat with them, point out the disadvantage of their insanitary living, and give them instructions to protect their health and they will invariably agree with your point of view and say you are right, but will they need your advice? Seldom, if ever! Their customs and prejudices can not be changed by mere talks and stern rules while deep in their hearts they lack conviction. All of the past medical work that will remain for good is their unshakeable belief in the curative effects of quinine and santonine, because they see the real benefit these

drugs produce, and they could not ignore facts despite their prejudices.

Personally my experience among these people during my inspections and yaws work is as follows: During my first visits in their settlements I was deceived by their submissiveness and apparent desire to comply with sanitary orders, but later on I found my mistake and was convinced that I had to follow other methods if I wanted results in my work. Besides advices in the way of lectures and chats a demonstration of the benefits of our work is needed. After I started injecting yaws patients, first by compulsion, until after the first cases were cured, they began to seek my help and anxiously await my inspection. In this psychological moment I thought it timely to give my talks and enforce sanitary rules, and usually the advices are received with more interest. In all the settlements where yaws patients are found the Philippine Health Service has now gained more popularity, and sanitary inspectors are looked upon not with fear but with gratitude, being a part of the organization that is working for them disinterestedly.

In conclusion, I believe that all health officers stationed in Manobos regions should always bear in mind the following:

1. While the Manobos stay in poverty due to their misguided ambition most of the sanitary rules will not be very successful. Their ambition to be "bagani" should be corrected and instead awaken another ambition for a better standard of living.

2. The health officer should not content himself by being a physician and sanitarian but by being a welfare worker and educator besides.

3. Strict regulations and strict enforcement of the regulations alone are not enough to get results.

4. Confidence of the Manobos should be first secured before any measure could be enforced with prospects of real success.

NOTE.—"Bagani" is a Manobo warrior, the bravest in the village.

THE PEOPLE OF THE MOUNTAIN PROVINCE

By Dr. ENRIQUE OCHOA, *Medical Inspector, Philippine Health Service*

This province is inhabited by several tribes of mountain people called "Igorot," the term, together with the general custom of wearing scanty apparel being the only thing in common among them. In the Subprovince of Apayao, the inhabitants are called "Itnegs" and they occupy the territory comprise between Buluan in the south and Bayag in the north. The Subprovince of Kalinga is inhabited by Kalinga Igorots living within the present boundaries of the subprovince, with the exception of a few barrios near Abra and Bontoc, inhabited by Tinguians and Bontocs. The Benguet Igorots live wholly within the Subprovince of Benguet and those living in Lepanto are sometimes called "Aplays." In the Subprovince of Ifugao, the "Ifugaos" proper live in Kiangan and the Ahin Valley; the people of Banaue, Kinakin, and Cambulo are called "Bababayans;" and those living in Mayoyao, Bunhian, Ducligan, and Damag are called "Moyoyaos." The Bontocs live within the limits of the Subprovince of Bontoc.

CUSTOMS, TRIBAL FEUDS, AND PECULIAR BELIEFS

These mountain tribes have very few customs in common. The planting of upland rice in more or less well-preserved rice paddies seem to be general among Igorots; the making of these rice paddies more being or less elaborate and more or less substantial according to the tastes, the location and the interest of the people in the immediate vicinity. Rice, being a staple product, is planted in such the same way all over the province. People gather in groups and trample dead leaves into the water-soaked soil to increase its fertility. In other places, carabao teams are so trained that the trampling is done by them instead of by men. It is not uncommon to see whole families out in the mud-laden paddies, trampling the ground or planting rice according to the season of the year. This custom, their close association with cattle and working animals, together with the fact that Igorots, as a rule, do not wear anything on their feet,

would seem to indicate that the incidence of hookworm would almost be one hundred per cent among them, but on microscopical examination of stools of people living in some places in Ifugao and Kalinga, it was found that the incidence was very much lower than was expected, and those that had it, did not seem to show signs of anæmia nor other systemic disturbances.

Each tribe or locality has its own peculiar way of building their houses. The Itnegs build houses in much the same style as those of the people in the plains. The Kalingas build more or less substantial houses, sometimes octagonal in shape and walled by brick boards or crude logs split in two and piled one on top of the other. Ventilation in these houses is scanty,—air being obtained thru small windows, but, being raised above the ground, it would seem quite satisfactory. The Bontocs and Aplays, however, as well as some Benguets build their houses closely perched on the side of a hill, so low that the only opening in it, a small square, two feet by eighteen inches, serves the triple purpose of door, window, and ventilating shaft. On one corner the fireplace is generally placed, and the people sleep crowded on crudely hewn boards imbibing the pine smoke of the fireplace which fills every nook and corner of the dark, dingy, foul-smelling, one-room residence. Hence these people generally suffer from conjunctivitis very frequently especially the inhabitants of the Natonin, Tinglayan, and Lepanto districts.

Each house, especially of the well-to-do, is provided with a pigpen where the family hog is jealously kept. The entire family as well as those unfortunate neighbors who may not happen to have enough funds to purchase the proverbial pig use this pigpen as a toilet. The pigs are reared to dispose of human excreta for one, then they are again useful because in some places, the "pigeon" excreta is used as a fertilizer in the rice paddies, the beautiful rice grains produced being then disposed of in the family menu, thus completing what to them in a most useful and delicious circle, altho not so agreeable from the health officers' point of view.

Each tribe, or each small locality, is more or less hostile to another, hostility even going so far as one family getting pitted against another, at times even those of the same locality. Igorots are revengeful, and an ancestor killed by the great grandparents of one family will be remembered by the descendants of the slain and even the great-great grandchildren will feel it their duty to revenge the wrong done by the ancestors of innocent descendants. Cases have been on record in which revenge

was metted out against an innocent bystander who had nothing to do whatsoever with the family or tribal feud. This custom is so widespread and is sometimes practiced by Igorots as to greatly handicap our vaccination work. Native sanitary inspectors are generally afraid to go out to other barrios for fear of being slain, or being the victim of the revenge of some misguided descendant whose ancestor had once upon a time been killed by the sanitary inspector's ancestor.

"Igorots," just like any other primitive people, have their own conception of the cause of disease and their own ways of healing the sick. They do not have regular medicine men nor "herbolarios" to call on, when sick, but they believe that disease is due to some "god" or "anito" avenging some wrong, real or imaginary done by the patient. This wrong may be, just slighting the "anito" or "bulul," or may be calling his name in vein; at any rate, the "bulul" becomes so exasperated as to cause the patient to fall sick, the severity of the illness depending, of course, on the anger of the offended "god." The disease will then linger on this individual so long as the "bulul" is angry. The remedy, therefore, lies in appeasing the anger of this particular "god." They believe that "anitos," like any other being, eat, live, and breathe; that partaking of food, especially good food, is the main weak point of an "anito" and that, naturally, to give some kind of an offering to please the "anito" will make him take away the effects of his punishment, from the sick individual. Accordingly, the relatives of the patient get together, purchase a chicken, preferably a white one, the whiter the chicken, the better, and kill it in a peculiar way. The oldest man in the village is generally chosen to make the "sacrificial offering." He and an assistant hold the chicken, cut his neck and bleed it to death. Then he burns the feathers, and cuts the chicken in two exposing it on wooden plates for a few hours, chanting all the while, in low monotonous tones, while the relatives sit around the offering and join the melancholy chorus. The singing is broken at intervals by glasses of "tapuy" (a kind of fermented beverage), drank now and then to quench the thirst of the well-meaning relatives. This ceremony is called "cañao" and has slight local variations. After a few hours of singing, drinking, and carousing, they cut the chicken into smaller pieces and cut it piecemeal. The patient during all this time, possibly due to the suggestion that the spirit's anger is already appeased, begins to show

signs of being well and feeling strong and will even peep out of the door to tell all his people that he is already well on his way to recovery. This custom is so deeply rooted among the ignorant villagers that it is hard to convince people to come to dispensaries, much less to hospitals, early enough, for treatment. In most cases, they only come when several "cañaos" have failed to produce the desired result, and only when the patient's illness is already too far advanced to be amended to any treatment.

These natives have also their own peculiar beliefs with regard to the disposal of the dead. In Kalinga, parts of Lepanto and Apayao, they do not believe in burrying their dead in regularly approved cemeteries. They believe that children should be buried near their parents' houses, while older people should be put in coffins hollowed out of logs, tightly sealed with mud paste, and placed in caves. They then hold their burial ceremonies also called "cañaos" consisting of the sacrifice of a hog, a cow, or a carabao according to the wealth of the deceased, and inviting people of the vicinity to participate in the ceremonies. The "cañao" in this case is held in order to please the spirit of the departed kin so that it will not envy the happy existence of those that were left behind. In Bontoc, and parts of Benguet and Ifugao, a wealthy deceased is sometimes placed "in estate," on a chair, and smoked for days and days, the feast and revelry going on around the cadaver during all this time. This is a most obnoxious practice and one of the hardest problems we have to deal with in the enforcing of the law with regard to burial and the establishment of even crude cemeteries in several places, preferably in crowded barrios or towns.

THE CLINICIAN OF THE PRESENT TIME

By Dr. ANTONIO G. SISON

Professor of Medicine, College of Medicine, University of the Philippines

We are just nearing the end of the first quarter of the twenty-first century, and yet on account of the recent advances that were made in medicine and the allied sciences, in the recent years, we have already departed a good deal from many of the tenets of our predecessors in the century that has just passed, so that our mind is fettered to the inexorable present and is becoming oblivious of those valuable lessons afforded by the past.

In the past century our predecessors in medicine, albeit their lack of scientific advantages that we, at the present time, have at our command, we have to recognize that many of them as clinicians are not surpassed by the best of our time, and in some manner perchance they may be superior to the clinician of nowadays.

The clinician of our time is required to have broad knowledge to be able to use or evaluate the results of physical, chemical, biological, psychological tests, and others, in order to elicit the presence of morbid changes in any individual affected by disease.

No matter how multiple and diversified might be the methods that we have in quest for truth, the clinician cannot dispense with the simple old method of observation which trains his physical senses, as the old clinician has done, to discern the presence of disease with its manifold manifestations; but at the same time he must always be mindful and alert to all the new and valuable aids that we have and might have at our disposal to recognize the presence of disease as early as possible, which is the most propitious time to be able to treat it with considerable probabilities of success.

The clinician is not only concerned with the recognition of disease, but also its treatment and prevention. The more we have learned about the cause of diseases and their transmission our field of vision became larger, our activities extended beyond actual treatment, we thought of something better than treating a disease, that is, to prevent its occurrence and spread, or what is called prophylaxis, so the great advance that can be recorded in our time besides causal or specific therapy is found in prophylaxis.

Prophylactic treatment was especially successful in infectious diseases, where their spread and occurrence of epidemics are being made less and less common on account of our increasing control of them.

In the treatment of disease the present day clinician has more than the old drug therapy at his command. He has the different forms of physical measures like hydrotherapy, balneology, massage, gymnastic, mechanical therapy, electrotherapy, light therapy, Roentgen ray, and radium therapy. We may add to these dietotherapy, psychotherapy, climatology, organotherapy, the use of bacterial products, and sera.

We are witnessing almost every day, as the result of the scientific activities of our era, the launching of new facts and new theories in medicine the effects of all of them is the cramming of the physician's mind of matter both essential and secondary, but, as the true clinician is the one that has developed the power of seeing what is essential and passing by immaterial details, one can attain such a coveted position if he only adheres to the habit of mastering the fundamental principles of medicine, and by developing a keen power of observation, one of the most prominent characteristics of a true clinician, whether of the past or of the present, and it will always be even in the future.

EDITORIAL

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Among the important phases of the work of the Philippine Health Service is that being undertaken among the non-Christians. While active sanitation was begun in Mindanao and Sulu only after the organization of the Department of the same name, it is already replete with interesting and even dramatic episodes. While each non-Christian community or individual is a law unto itself or himself, the native art of healing among the non-Christians in the different parts of the Philippines has several things in common.

Health work among
the non-Christians

The causes of illness are generally premised upon a series of taboos based on superstition; and it has been the endeavor of the Philippine Health Service to replace these series of taboos with another series based upon science. The idea of disease being spread by contagion or infection and being due to germs gaining entrance to the body by way of the respiratory, alimentary, or other passages, directly or indirectly or through the bite of certain insects, is gradually taking the place of the belief that disease is due to evil spirits or to the wrath of Satan. The accomplishment of this fundamental change in the notion of the non-Christians with regards to exposure to and transmission of disease has been brought about by many factors, among which may be mentioned the construction and operation of hospitals and dispensaries, the active campaign against yaws, and other similar measures.

The health worker in a non-Christian community must needs have much patience, tolerance, and tact. He must produce palpable results before he can convince the non-Christian that modern medicine is superior to the native art of healing. Such operation as the removal of tumors and such treatment as that of yaws by salvarsan are at once convincing, and they secure for

the health officer a strategic position for enforcing the health laws and ordinances more effectively. Incidentally, the client, his relatives, and friends become more friendly to the Government and become more law-abiding.

To the far-sightedness of the officials of the Department of Mindanao and Sulu then is to be attributed the construction and operation of hospitals in practically every province, which has contributed in no small degree to the success of sanitation in those places. (In the Mountain Province, there is also a hospital in practically every subprovince.) The non-Christians have now learned to patronize the hospitals and dispensaries and it is, indeed, sad that many of these hospitals have found themselves obliged to refuse the admission of patients on account of lack of beds or on account of lack of funds for their maintenance. Since the year 1914, the yearly appropriation for these hospitals has remained practically the same year by year; and as the number of patients being treated or cared for has more than doubled, the said appropriation has now become utterly inadequate to meet the increasing demands for hospital and dispensary service. To parody a popular phrase, the health officers, in the expenditure of funds, have actually been obliged to grow two blades where only one grew before.

It is, therefore, our ardent hope that the Legislature will increase the appropriation for health work in Mindanao and Sulu. No better investment can be made of the Government funds than for this purpose, for it is commonly admitted that health work in the non-Christian communities has contributed and is still greatly contributing in the maintenance of peace and order in those places. This belief may be strengthened by the fact that in spite of the political upheavals which have sporadically been occurring in Mindanao and Sulu, the health officers and employees in those places have ever remained secure in the hearts of the Mohammedans.



GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of April, 1925]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR, 1925¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,340
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,320
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS

APRIL, 1925

Date	Pressure ¹ mean	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	760.34	27.7	35.4	5	21.6	3	29.2	29.6
11-20.....	59.76	27.7	34.3	12, 16	21.3	12	29.5	30.0
21-30.....	59.00	27.9	35.1	24	20.0	26	30.2	30.7

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	68.7	73.9	7	62.4	9
11-20.....	70.7	74.2	19	66.4	15
21-30.....	70.8	77.1	29	62.8	26

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	E quad	1,873.5	227.0	9	65.1	8.6	9
11-20.....	SE	1,966.0	278.0	20	57.3	7.0	15
21-30.....	SE	1,966.0	302.5	21	61.1	8.5	25

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	71-25	9-35	4	0.0	0
11-20.....	77-35	9-25	17	4.1	1
21-30.....	80-25	9-55	27	4.7	1

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instrument mounted in the observatory park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

BY NATIONALITY

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	8	3	11	42.73
Filipinos.....	686	593	1,279	54.47
Spaniards.....	4	2	6	37.36
Other Europeans.....	3	4	7	75.69
Chinese.....	38	26	64	43.64
All Others.....	7	4	11	61.26
Total and average.....	746	632	1,378	53.75

BIRTHS BY DISTRICTS

Districts	Legitimates			Illegitimates			Grand total	Annual birth rates per 1,000
	Male	Female	Total	Male	Female	Total		
No. I, MEISIC:								
1. Tondo	187	160	347	10	18	28	375	58.04
2. San Nicolas	49	32	81	2	3	5	86	36.85
3. Binondo	32	22	54				54	38.29
Total	268	214	482	12	21	33	515	50.46
No. II, SAMPALOC:								
4. Santa Cruz	87	71	158	5	7	12	170	40.67
5. Quiapo	17	29	46				46	36.24
6. San Miguel	10	16	26	1	1	2	28	78.91
7. Sampaloc	110	82	192	11	6	17	209	65.79
Total	224	198	422	17	14	31	453	50.44
No. III, PACO:								
8. Port Area	2	1	3		1		3	7.78
9. Intramuros	27	27	54	6		7	61	52.12
10. Ermita	34	30	64	4	2	6	70	54.20
11. Malate	72	56	128	4	1	5	133	100.91
12. Paco	34	38	72	1	1	2	74	57.67
13. Pandacan	17	12	29	2		2	31	66.11
14. Santa Ana	21	14	35	1	2	3	38	71.14
Total	207	178	385	18	7	25	410	63.55
Grand total	699	590	1,289	47	42	89	1,378	53.76

Attended by physicians, living, 859; Stillbirths, 19.

Attended by midwife, living, 206; Stillbirths, 5.

Attended by family, living, 813; Stillbirths, 13.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans	2	1	3	11.65
Filipinos	266	249	515	21.98
Spaniards	3	1	4	24.91
Other Europeans	1		1	10.81
Chinese	23	3	26	17.73
All Others	1	1	2	11.14
Total and average	296	255	551	21.49

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	126	86
Divorced		1
Widowed	38	62
Single	180	152
Condition not stated		
Total	344	301
Grand total	645	

Stillbirths	87
Number of deaths with medical attendance	408
Number of deaths without medical attendance	242

DEATHS BY DISTRICTS AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Districts	Deaths	Annual death rates per 1,000
No. I, MESEIC:		
1. Tondo.....	172	26.62
2. San Nicolas.....	45	19.28
3. Binondo.....	23	16.31
Total.....	240	23.52
No. II, SAMPALOC:		
4. Santa Cruz.....	87	20.81
5. Quiapo.....	11	8.67
6. San Miguel.....	9	25.36
7. Sampaloc.....	80	25.18
Total.....	187	20.82
No. III, PACO:		
8. Port Area.....	3	7.78
9. Intramuros.....	18	15.38
10. Ermita.....	13	10.07
11. Malate.....	42	31.87
12. Paco.....	25	19.48
13. Pandacan.....	12	25.59
14. Santa Ana.....	11	20.59
Total.....	124	19.22
Grand total.....	551	21.49

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	82	70	10	11	173
1 year plus.....	18	21		3	42
2 years plus.....	7	6		2	15
3 years plus.....	5	3	1		9
4 years plus.....	1	5			6
5 to 9 years.....	5	8			13
10 to 14 years.....	4	1		2	7
15 to 19 years.....	11	8	5	1	25
20 to 24 years.....	18	15	5	2	40
25 to 29 years.....	19	17	6	3	45
30 to 34 years.....	9	10	6		25
35 to 39 years.....	11	13	3	7	34
40 to 44 years.....	15	14	3	3	35
45 to 49 years.....	13	8	1	1	23
50 to 54 years.....	17	5	3	2	27
55 to 59 years.....	16	7	1	3	27
60 to 64 years.....	12	8	2	2	24
65 to 69 years.....	6	6	1	2	15
70 to 74 years.....	10	8			18
75 to 79 years.....	8	4			12
80 to 84 years.....	4	4		1	9
85 to 89 years.....	3	3	1	1	8
90 to 94 years.....	1	5			6
95 to 99 years.....	1	2			3
100 years and over.....		4			4
Age not stated.....					
Total.....	296	255	48	46	645

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH, AND MUNICIPAL DISTRICTS

Age groups	No. 1, Meisic						No. 2, Sampaloc							
	No. 1, Tondo		No. 2, San Nicolas		No. 3, Binondo		No. 4, Santa Cruz		No. 5, Quiapo		No. 6, San Miguel		No. 7, Sampaloc	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year.....	28	25	8	8	2	3	11	5	3	2	1	4	11	13
1 year plus.....	7	8	1	1		2	2	3				1	3	2
2 years plus.....	3	3		2			1	1					2	
3 years plus.....	1	2	1										2	1
4 years plus.....		3												1
5 to 9 years.....	1	1			1		2	2				1	1	
10 to 14 years.....							1	1						1
15 to 19 years.....	1	2			2		2	2		1			1	
20 to 24 years.....	2	5	2				3	2					3	2
25 to 29 years.....	3	6	2	2			8	2					2	2
30 to 34 years.....	2	5	1				4	2					1	4
35 to 39 years.....	1	6		2			3			2			1	3
40 to 44 years.....	2	9			2		3			1			4	1
45 to 49 years.....	1	1	2	1	1	1	5	2					5	2
50 to 54 years.....	3	2	1	1	2		2	1				1	2	1
55 to 59 years.....	5	2	1		1		2	2				1	3	
60 to 64 years.....	3	1	1	1	1	1	3	2				1	2	1
65 to 69 years.....		3	3		1		1	1		1			1	2
70 to 74 years.....	3	2	2	1			2	1					1	
75 to 79 years.....	2	2												
80 to 84 years.....	3	1						2					1	
85 to 89 years.....	1	1	1	1	1		1	1						
90 to 94 years.....		1					1							
95 to 99 years.....	1	1												1
100 years and over.....		1		1		1								
Age not stated.....														
Total.....	87	85	24	21	13	10	56	31	4	7	1	8	43	37
Grand total.....	172		45		23		87		11		9		80	

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH,
AND MUNICIPAL DISTRICTS—Continued

Age groups	Health districts														Total		Grand total
	No. 3, Paco																
	No. 8, Port Area		No. 9, Intramuros		No. 10, Ermita		No. 11, Malate		No. 12, Paco		No. 13, Pandacan		No. 14, Santa Ana				
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female			
Under 1 year																	
1 year plus																	
2 years plus																	
3 years plus																	
4 years plus	1																
5 to 9 years																	
10 to 14 years																	
15 to 19 years																	
20 to 24 years																	
25 to 29 years																	
30 to 34 years																	
35 to 39 years																	
40 to 44 years	1																
45 to 49 years																	
50 to 54 years																	
55 to 59 years																	
60 to 64 years																	
65 to 69 years																	
70 to 74 years																	
75 to 79 years																	
80 to 84 years																	
85 to 89 years																	
90 to 94 years																	
95 to 99 years																	
100 years and over																	
Age not stated																	
Total	2	1	12	6	11	2	20	22	12	13	6	6	5	6	296	255	551
Grand total	3		18		13		42		25		12		11		551		551

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
159—	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included):													
	b. Congenital malformations of the heart			1	1									2
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema			18	11						1			30
161	Premature birth; Injury at birth:													
	a. Premature birth (not stillborn)			1	3									4
	b. Injury at birth (not stillborn)			1										1
162	Other diseases peculiar to early infancy			4	2									6
164—	<i>XIII. Old age</i>													
164	Senility			9	22									31
165-203	<i>XIV. External causes</i>													
171	Suicide by cutting or piercing instruments			1										1
179	Accidental burns (conflagration excepted)			2	1									3
182	Accidental drowning				1					1				2
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	c. Automobile accidents			2										2
196	Other accidental electric shocks									1				1
197	Homicide by firearms		1											1
198	Homicide by cutting or piercing instruments			1										1
202	Other external violence			2										2
	Total	2	1	266	249	3	1	1	1	23	3	1	1	551
	Grand total	3		515	4			1		26		2		

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA
(Stillbirths not included)

249

International numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													7
10	a. Typhoid fever.....			4	3									2
11	Diphtheria.....				2									2
16	Influenza:													1*
20	a. With pulmonary complications specified.....				1									1
21	b. Bacillary.....			1	1									2
22	Leprosy.....			1										1
23	Erysipelas.....			1										1
24	Tetanus:													1
31	a. Umbilical.....				1									1
32	b. Others.....				1									1
33	Tuberculosis of the respiratory system.....			9	4									13
34	Disseminated tuberculosis:													1
35	a. Chronic or unspecified.....			1										1
36	b. Purulent infection, septicaemia.....													1
43-69	<i>II. General diseases not included in class I</i>													
46	Cancer and other malignant tumors of the female genital organs.....				1									1
49	Cancer and other malignant tumors of other or unspecified organs.....			2	1									3
55	Beriberi:													5
56	a. Infants.....			3	2									5
57	Rickets.....			1										1
58	Anemia, chlorosis:													1
70-86	a. Pernicious anemia.....			1										1
71	<i>III. Diseases of the nervous system and of the organs of special sense</i>													
72	Meningitis:													1
73	a. Simple meningitis.....			1										1
74	b. Nonepidemic cerebrospinal meningitis.....			1										1
75	Other diseases of the spinal cord.....				1									1
76	Other forms of mental alienation.....			1										1

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 11 days	14 days to under 1 year	Total
10. Diphtheria.....					1	1
21. Erysipelas.....					1	1
23. Lethargic encephalitis.....					2	2
29. Tetanus:						
a. Umbilical.....				4		4
31. Tuberculosis of the respiratory system.....					1	1
32. Tuberculosis of the meninges and central nervous system.....					2	2
55. Beriberi:						
a. Infants.....				6	36	42
56. Rickets.....					3	3
62. Diseases of the thymus gland.....					1	1
80. Infantile convulsions.....				1		1
87. Pericarditis.....					1	1
99. Bronchitis:						
a. Acute.....					20	20
b. Chronic.....					2	2
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....					20	20
b. Capillary bronchitis.....					2	2
101. Pneumonia:						
a. Lobar.....					3	3
102. Pleurisy.....					1	1
113. Diarrhea and enteritis.....					15	15
128. Acute nephritis.....					2	2
129. Chronic nephritis.....					1	1
153. Acute abscess.....					2	2
154. Other diseases of the skin and annexa.....					1	1
159. Congenital malformations (stillbirth not included):						
b. Congenital malformations of the heart.....	1				1	2
160. Congenital debility, icterus and scler- ema.....	14	2	4	9	2	31
161. Premature birth; injury at birth:						
a. Premature birth (not still- born).....	3			1		4
b. Injury at birth (not stillborn).....	1					1
162. Other diseases peculiar to early in- fancy.....		1	1	2	2	6
205. Cause of death not specified or ill- defined:						
b. Not specified or unknown.....					1	1
Total.....	19	3	5	23	123	173

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	18,930
Number of rats caught by spring traps.....	2,826
Number of cage-wire traps set.....	720
Number of rats caught by cage-wire traps.....	1
Number and kind of baits (coconuts).....	19,650
Number of poison portions placed.....	13,604
Number of rats found poisoned.....	440
Number of rats killed by clubs and other weapons.....	1,115
Number of rats found dead from other causes.....	686
Total number of rats otherwise caught, found dead, or killed.....	5,068
Total number of rats sent to the Laboratory for examination.....	5,068
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF APRIL, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I	No. 1	4	1	2	2				4	1	2	2	6	3
	No. 2	2		2					2		2		4	
	No. 3		1							1				1
	No. 4	2		2					2		2		4	
II	No. 5	2		1					2		1		3	
	No. 6	1		1					1		1		2	
	No. 7	3	2	2	1				3	2	2	1	5	3
	No. 8		1	1					1		1		1	1
III	No. 9	4		1					4		4	1	4	1
	No. 10													
	No. 11	1		2					1		2		3	
	No. 12	2							2				2	
Transients	No. 13													
	No. 14	3	1	3	1				3	1	3	1	6	2
		16	4	5	3				16	4	5	3	21	7
	Total	40	9	21	9				40	9	21	9	61	18

REMARKS:

Total cases reported within the month in the City of Manila	76
Residents cases	54
Non-resident cases	22
Foreign cases	0
Total deaths reported within the month in the City of Manila	18
Deaths among resident cases	11
Deaths among non-resident cases	7
Deaths among foreign cases	0
Total cases confirmed as typhoid fever	58
By autopsy	0
By blood culture	6
By widal reaction	2
By urine examination	0
By feces examination	0
By clinical symptoms	50
Cases confirmed as paratyphoid fever	3
Total cases not confirmed	15

Typhoid Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF APRIL, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....														
{ No. 1.....			2	1							2	1	2	1
{ No. 2.....														
{ No. 3.....														
{ No. 4.....	2	1	1				2	1			1		3	1
{ No. 5.....			1								1		1	
{ No. 6.....														
{ No. 7.....														
{ No. 8.....														
{ No. 9.....														
{ No. 10.....														
{ No. 11.....			1	1							1	1	1	1
{ No. 12.....														
{ No. 13.....														
{ No. 14.....			1	1							1	1	1	1
Transients.....														
Total.....	2	1	6	3			2	1			6	3	8	4

REMARKS:
 Total cases reported within the month in the City of Manila 8
 Resident cases 7
 Non-resident cases 1
 Total deaths reported within the month in the City of Manila 4
 Deaths among resident cases 3
 Deaths among non-resident cases 1
 Total cases not confirmed as dysentery 0
 Dysentery Carrier—2

CHOLERA REPORTED DURING THE MONTH OF APRIL, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.....	No. 1.....																			
	No. 2.....																			
	No. 3.....																			
	No. 4.....																			
	No. 5.....																			
II.....	No. 6.....																			
	No. 7.....																			
	No. 8.....																			
	No. 9.....																			
	No. 10.....																			
III.....	No. 11.....																			
	No. 12.....																			
	No. 13.....																			
	No. 14.....																			
	Transients.....																			
	Total.....																			

REMARKS:

Total cases reported within the month in the City of Manila

Total cases reported within the month in the City of Manila	0
Resident cases	0
Non-resident cases	0
Foreign cases	0
Resident cases not confirmed as cholera	0
Resident cases not confirmed as cholera	0
Total deaths reported within the month in the City of Manila	0
Deaths among resident cases confirmed as cholera	0
Deaths among non-resident cases confirmed as cholera	0

Cholera Carrier—1

DIPHtheria REPORTED DURING THE MONTH OF APRIL, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total		
	Male		Female		Male		Female		Male		Female		Cases	Deaths	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths					
I.	No. 1.....														
	No. 2.....														
	No. 3.....														
	No. 4.....														
II.	No. 5.....	1		2	1					1		2	1	3	1
	No. 6.....														
	No. 7.....														
	No. 8.....														
III.	No. 9.....														
	No. 10.....														
	No. 11.....														
	No. 12.....	1								1				1	
	No. 13.....														
	No. 14.....														
	Transients.....			3	2							3	2	3	2
	Total.....	2		5	3					2		5	3	7	3

REMARKS:

Total cases reported within the month in the City of Manila.....

Resident cases.....

Non-resident cases.....

Resident cases not confirmed as diphtheria.....

Non-resident cases not confirmed as diphtheria.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases confirmed as diphtheria.....

Deaths among resident cases not confirmed as diphtheria.....

Deaths among non-resident cases confirmed as diphtheria.....

Diphtheria Carrier--1

17

11

6

7

3

3

1

0

2

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF APRIL, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	17	2	4	2
Varicella.....	15	9		
Varioloid.....				
Smallpox.....	1		1	
Measles.....	4	2		
Whooping cough.....		1		1
Influenza.....	11	3	2	1
Bubonic plague.....				
Encephalitis Lethargica.....	1	2	1	2
Meningitis cerebrospinal epidemic.....	1			
Pulmonary tuberculosis.....	130	101	77	63
Tuberculosis of all forms.....	9	6	8	5
Beriberi, infantile.....	17	20	17	20
Beriberi, adult.....	1	1		1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	7	2		
Varicella.....	1	1		
Varioloid.....				
Smallpox.....	2			
Measles.....				
Whooping cough.....	1			
Influenza.....	5	3		1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	2			
Pulmonary tuberculosis.....	17	16	9	4
Tuberculosis of all forms.....	1	2		1
Beriberi, infantile.....	3	2	3	2
Beriberi, adult.....				

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF APRIL, 1925**

Sera and vaccines	On hand April 1, 1925	Received during the month	Total to be accounted for	Dis- tributed during the month	Remaining at the end of the month
Antidiphtheric serum (units).....	390,000	1,000,000	1,390,000	600,000	790,000
Antidysenteric serum (ampoules).....	29	100	129	55	74
Antitetanic serum (units).....		152,000	152,000	152,000	
Cholera vaccine (c.c.).....	63,190		63,190	18,600	44,590
Dried vaccine virus (units).....	35,950	101,000	136,950	93,950	43,000
Fresh vaccine virus (units).....	63,200	200,000	263,200	203,550	59,650
Gonococcus vaccine (ampoules).....		20	20	20	
Mixed (cholera-typhoid) vaccine (c.c.).....	11,140	77,550	88,690	78,360	10,330
Normal horse serum (ampoules).....		100	100	100	
Streptococcus vaccine (ampoules).....		6	6	6	
Typhoid vaccine (c.c.).....	15,900	18,000	33,900	20,040	13,860

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF APRIL, 1925

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated								Total
		Total vaccinations	Previously vaccinated		Under 1 year	1 to 4 years		5 years and over		Total			
			Never	Successfully		Unsuccessful	Positive	Negative	Positive		Negative		
No. 1.	{ Tondo.	1,152	218	864	70	238	7	22	9	1	4	261	20
	{ San Nicolas.	1,058	69	906	83	55	3	4	1	1	2	60	6
	{ Binondo.	1,882	21	812	49	27	3	3	5	2	2	27	10
	{ Santa Cruz.	1,289	141	961	187	81	2	3	2	305	74	389	78
	{ Quiso.	78	11	45	22	23	2	2	2	1	1	25	1
No. 2.	{ San Miguel.	10	10			10						10	
	{ Sampaloc.	174	105	8	61	133	10			1	1	134	11
	{ Port Area.												
	{ Intramuros.	186	27	137	22	33	1					33	
	{ Ermita.	120	30	79	11	26	1					26	5
No. 3.	{ Malate.	115	35	57	23	35	3				4	35	3
	{ Paco.	790	45	703	42	37	3	1	4		1	38	8
	{ Pandacan.	15	15			16	1					16	1
	{ Santa Ana.	24	23	1		16	1					16	1
	{ Total.	5,893	750	4,573	570	730	35	30	21	310	89	1,070	145

Vaccine virus:
 Received
 Used
 Remained

15,650
 10,380
 5,300

Health districts	Municipal districts	Number of injections made in--												Total number of injections					
		Adults						Children						Total number of injections					
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1	Tondo.....	80	514	50	236	57	439	32	51	17	23	25	49	112	565	67	259	82	488
	San Nicolas.....	2	329	2	161	82	204	38	20	81	24	72	54	40	349	83	185	154	258
	Binondo.....	1	699	2	588	3	495	2	53	2	56	2	46	3	752	4	644	5	541
	Santa Cruz.....	4	581	8	328	11	323	13	33	16	13	7	12	17	614	24	341	18	335
No. 2	Quiapo.....	91	584	23	184	273	38	44	109	109	135	115	20	135	293	38	388	38	388
	San Miguel.....	46	165	28	107	17	43	30	101	31	36	23	20	76	266	59	143	40	63
	Sampaloc.....	56	243	41	164	33	417	17	8	12	6	9	3	73	251	53	170	42	420
	Port Area.....	8	8	4	4	1	1	1	1	1	1	1	2	2	8	4	4	3	3
No. 3	Intramuros.....	39	111	31	70	21	76	37	32	12	32	17	33	76	143	43	102	38	109
	Ermita.....	2	289	312	15	17	15	13	13	13	2	2	2	17	302	31	312	2	17
	Malate.....	185	17	164	30	175	14	52	14	52	2	8	19	360	31	216	38	38	
	Paco.....	34	164	27	401	19	132	30	17	22	14	18	19	64	181	49	415	37	151
Total	Pandacan.....	66	239	27	91	12	51	55	86	35	44	10	26	121	325	62	134	22	77
	Santa Ana.....	5	119	195	195	384	16	16	16	3	10	3	1	5	135	3	205	3	385
	Total.....	611	3,478	564	2,680	558	2,620	488	444	392	257	311	265	1,099	3,922	956	2,937	869	2,885

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V. in persons never vaccinated before; R. revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Total vaccina- tions ^a	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	2,197	789	439	969
Agusan.....	316	239	10	67
Albay.....	9,079	2,576	2,412	4,091
Bataan.....	2,250	377	1,064	809
Batanes.....	235	98	14	123
Batangas.....	8,099	2,641	1,551	3,907
Bohol.....	4,388	886	1,836	1,666
Bulacan.....	13,972	4,842	4,963	4,167
Cagayan.....	9,880	2,403	2,867	4,610
Camarines Norte.....	1,125	455	163	507
Camarines Sur.....	8,786	1,232	5,160	2,344
Capiz.....	7,646	2,903	2,285	2,458
Catanduanes.....	4,172	1,105	719	2,348
Cavite.....	13,129	1,958	7,661	3,510
Cebu.....	22,009	5,923	6,453	9,633
Cotabato.....	1,370	341	396	633
Culion Leper Colony.....	328	27	220	81
Ilocos Norte.....	499	213	103	183
Ilocos Sur.....	5,411	2,445	329	2,637
Iloilo.....	5,282	2,955	496	1,831
Isabela.....	5,569	1,530	2,316	1,723
Laguna.....	7,560	2,711	1,864	2,985
La Union.....	6,093	1,446	1,924	2,723
Leyte.....	13,683	4,774	2,318	6,591
Marinduque.....	2,572	622	992	958
Masbate.....	2,376	754	677	945
Misamis.....	4,087	1,467	1,353	1,267
Mountain Province.....	2,279	526	1,032	721
Nueva Ecija.....	6,648	3,542	1,102	2,004
Nueva Vizcaya.....	1,055	116	590	349
Occidental Negros.....	8,158	4,186	1,460	2,512
Oriental Negros.....	8,292	2,294	2,745	3,253
Pampanga.....	9,732	2,377	2,908	4,447
Pangasinan.....	6,591	3,190	301	3,100
Rizal.....	9,869	1,948	6,336	1,585
Sulu.....	6,492	2,580	2,050	1,862
Tarlac.....	5,307	1,198	2,957	1,152
Tayabas.....	4,760	1,674	1,308	1,778
Zambales.....	932	193	419	320
Zamboanga.....	1,503	753	132	618
Total.....	233,681	72,289	73,925	87,467

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	240	137	498	466	279	405	1,017	1,008
Agusan	94	40	30	24	23	7	147	71
Albay	716	281	817	355	1,650	1,051	3,183	1,687
Bataan	351	56	553	366	477	384	1,381	804
Batanes	23	7	97	45	47	12	167	66
Batangas	1,017	171	1,705	469	1,919	1,471	4,641	2,111
Bohol	375	78	563	277	1,097	1,081	2,035	1,386
Bulacan	2,176	240	2,915	642	3,393	1,529	8,484	2,411
Cagayan	1,069	145	2,155	380	3,676	1,548	6,900	2,073
Camarines Norte	303	85	290	90	222	86	815	261
Camarines Sur	499	119	740	247	4,294	2,287	5,533	2,653
Capiz	963	197	1,392	514	2,396	892	4,751	1,603
Catanduanes	453	222	637	238	399	288	1,489	748
Cavite	1,260	143	2,409	476	6,142	2,630	9,811	3,249
Cebu	1,545	1,158	2,801	934	2,809	3,064	7,155	5,156
Cotabato	72	45	180	79	391	428	643	552
Culion Leper Colony	19	6	8	3	173	119	200	128
Iloilo	66	22	67	32	158	92	291	146
Ilocos Sur	1,509	230	1,421	373	651	558	3,581	1,161
Iloilo	950	77	1,173	256	991	507	3,114	840
Isabela	181	87	652	323	1,644	1,810	2,477	1,720
Laguna	1,098	380	1,336	515	1,546	2,042	3,980	2,937
La Union	685	130	1,169	687	879	1,156	2,733	1,973
Leyte	1,276	456	1,618	664	3,438	2,006	6,332	3,126
Marinduque	257	87	222	64	525	398	1,004	549
Masbate	194	119	242	119	266	249	702	487
Misamis	226	158	506	301	724	693	1,456	1,152
Mountain Province	97	4	300	100	491	418	888	522
Nueva Ecija	1,345	282	1,989	498	918	723	4,252	1,503
Nueva Vizcaya	66	7	118	54	426	339	610	400
Occidental Negros	1,678	386	1,601	505	1,523	541	4,802	1,432
Oriental Negros	1,000	335	1,384	621	2,091	1,084	4,475	2,040
Pampanga	1,026	250	909	297	2,065	1,741	4,000	2,288
Pangasinan	1,819	157	1,895	358	954	719	4,668	1,234
Rizal	1,087	163	1,073	404	2,079	3,233	4,239	3,800
Sulu	337	128	996	407	1,920	863	3,253	1,898
Tarlac	626	111	737	311	1,254	1,868	2,617	2,290
Tayabas	537	143	858	276	1,458	883	2,848	1,252
Zambales	77	32	173	111	227	286	477	429
Zamboanga	180	94	213	99	219	125	612	318
Total	27,492	6,968	38,442	12,980	55,829	39,016	121,763	58,964

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan.....						
Albay.....	1,283	675	245	199		
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	15	11				
Bohol.....						
Bulacan.....	266	176				
Cagayan.....						
Camarines Sur.....						
Catanduanes.....	2	65	2	88		
Cebu.....	211	340	10	18		
Cotabato.....						
Ilocos Sur.....						
Iloilo.....						
Laguna.....						
La Union.....						
Leyte.....						
Marinduque.....						
Masbate.....						
Mindoro.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Pampanga.....						
Pangasinan.....	5	20	5	17		
Sulu.....						
Tarlac.....						
Tayabas.....						
Total.....	1,782	1,287	262	322		

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Agusan.....									
Albay.....	1,205	721	319	253			3,884	1,016	
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	26	4					56		
Bohol.....									
Bulacan.....	213	116					771		
Cagayan.....									
Camarines Sur.....									
Catanduanes.....	1	56	1	68			124	159	
Cebu.....	172	318	8	19			1,041	55	
Cotabato.....									
Ilocos Sur.....									
Iloilo.....									
Laguna.....									
La Union.....									
Leyte.....									
Marinduque.....									
Masbate.....									
Mindoro.....									
Nueva Ecija.....									
Nueva Viscaya.....									
Occidental Negros.....									
Oriental Negros.....									
Pampanga.....									
Pangasinan.....	5	25	4	22			55	48	
Sulu.....									
Tarlac.....									
Tayabas.....									
Total.....	1,622	1,240	332	362			5,931	1,278	

¹ Incomplete; report from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan.....						
Albay.....						
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....						
Bohol.....						
Bulacan.....	306	120	281	113	219	74
Cagayan.....						
Camarines Sur.....						
Catanduanes.....						
Cebu.....	21	1	1	1		
Cotabato.....						
Ilocos Sur.....						
Iloilo.....	44	30	12	6	10	6
Laguna.....						
La Union.....						
Leyte.....	8	34	2			
Marinduque.....						
Masbate.....						
Mindoro.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Pampanga.....						
Pangasinan.....	78	29	25	11		
Sulu.....						
Tarlac.....						
Tayabas.....						
Total.....	457	214	321	131	229	80

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Agusan.....									
Albay.....									
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....									
Bohol.....									
Bulacan.....	337	129	315	118	247	68	892	827	608
Cagayan.....									
Camarines Sur.....									
Catanduanes.....									
Cebu.....	2	2					26	2	
Cotabato.....									
Ilocos Sur.....									
Iloilo.....	72	16	34	2	42	2	162	54	60
Laguna.....									
La Union.....									
Leyte.....	22	24	1	2			88	5	
Marinduque.....									
Masbate.....									
Mindoro.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Pampanga.....									
Pangasinan.....	47	60	10	13			214	59	
Sulu.....									
Tarlac.....									
Tayabas.....									
Total.....	480	281	360	135	289	70	1,382	947	668

¹ Incomplete; reports from other provinces not yet received.

A. means persons of 15 and over 15 years of age; C. below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan.....						
Albay.....	10	5	17			
Antique.....	181	490	71	116		
Bataan.....	553	204	191	71		
Batanes.....						
Batangas.....	35	24	22	18		
Bohol.....	181	41	116	41		
Bulacan.....	435	184	342	142		
Cagayan.....	148	70	35	66		
Camarines Sur.....	294	197	110	147		
Catanduanes.....						
Cebu.....	1,222	839	343	131		
Cotabato.....	153	7	8			
Ilocos Sur.....	305	86	277	71		
Iloilo.....	83	78	62	45		
Laguna.....	218	370	180	341		
La Union.....	402	209	139	272		
Leyte.....	265	125	248	69		
Marinduque.....	231	434	210	193		
Masbate.....	4		67			
Mindoro.....						
Nueva Ecija.....	31	4	33	8		
Nueva Vizcaya.....	58	204	58	204		
Occidental Negros.....	271	46	103	13		
Oriental Negros.....	286	41	21	5		
Pampanga.....	3,066	3,170	2,073	2,662		
Pangasinan.....	246	312	118	227		
Sulu.....	25		19			
Tarlac.....	24	80	17	52		
Tayabas.....	249	132	83	79		
Total.....	8,976	7,352	4,963	4,973		

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Agusan.....									
Albay.....	12	6	11				33	28	
Antique.....	156	450	59	117			1,277	363	
Bataan.....	365	133	139	43			1,255	444	
Batanes.....									
Batangas.....	59	22	52	14			140	106	
Bohol.....	198	121	121	100			541	378	
Bulacan.....	421	167	318	124			1,207	926	
Cagayan.....	49	62	11	59			329	171	
Camarines Sur.....	177	93	35	63			761	355	
Catanduanes.....									
Cebu.....	1,039	637	341	134			3,737	949	
Cotabato.....	37	5	1				292	9	
Ilocos Sur.....	272	104	184	121			767	653	
Iloilo.....	86	67	54	19			314	180	
Laguna.....	221	290	263	380			1,099	1,164	
La Union.....	293	166	76	197			1,070	684	
Leyte.....	279	64	386	59			733	762	
Marinduque.....	208	389	138	145			1,262	686	
Masbate.....			33				4	100	
Mindoro.....									
Nueva Ecija.....	50	8	51	20			93	112	
Nueva Vizcaya.....	33	219	33	219			514	514	
Occidental Negros.....	198	142	56	70			657	242	
Oriental Negros.....	150	38	16	7			515	49	
Pampanga.....	3,686	2,564	2,372	2,027			12,486	9,134	
Pangasinan.....	221	293	166	196			1,072	707	
Sulu.....	5		4				30	23	
Tarlac.....	25	71	18	51			200	138	
Tayabas.....	159	17	35	8			557	205	
Total.....	8,399	6,128	4,973	4,173			30,855	19,082	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**SMALL-POX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF APRIL, 1925**

(No case and no death reported during the month)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF APRIL, 1925**

(No case and no death reported during the month)

**OPERATION OF THE DIVISION OF SANITARY ENGINEERING, CITY OF
MANILA, DURING THE MONTH OF APRIL, 1925**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending April 1, 1925:				
Minor.....	110	60	44	214
Sewer.....	26	53	15	94
Vacating.....	11	14	17	42
Filling.....	10	24	7	41
Total.....	157	151	83	391
Orders issued during the month:				
Minor.....	18	9	22	49
Sewer.....	1	1		2
Total.....	19	10	22	51
Orders completed during the month:				
Minor.....	4	10	6	20
Vacating.....			1	1
Total.....	4	10	7	21
Orders cancelled during the month:				
Minor.....		1		1
Total.....		1		1
Orders pending, April 30, 1925:				
Minor.....	124	58	60	242
Sewer.....	27	54	15	96
Vacating.....	11	14	16	41
Filling.....	10	24	7	41
Total.....	172	150	98	420
Strong material plans approved:				
New buildings including additions and alterations.....	21	58	31	110
Permits for minor building construction:				
Approved.....	25	65	26	116
Disapproved.....	13	8	5	26
New buildings completed.....	8	23	12	43
Permits for light and mixed material construction:				
Approved.....	38	51	30	119
Disapproved.....	14	10	8	32
Prosecutions:				
Dismissals.....		2	1	3
Plumbing permits issued.....	43	58	51	152
Plumbing projects completed.....	25	41	23	89
Premises connected to the sanitary sewer to March 31, 1925.....	2,414	4,096	466	6,976
Premises connected during the month.....	6	3	4	13
Total.....	2,420	4,099	470	6,989

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of May, 1925]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR, 1925¹ BY NATIONALITIES

Nationality	Population
Americana.....	3,184
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All Others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,340
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,820
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,728
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS MAY, 1925

Date	Pres- sure ¹ mean	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	757.66	28.2	36.0	7	21.8	2	30.3	30.8
11-20.....	57.91	27.6	33.8	12	23.2	14	30.2	30.6
21-31.....	58.26	28.4	36.0	30	23.8	22	31.2	31.5

¹ Corrected for instrumental error and for temperature and reduced to sea level. Cor-
rection to standard gravity, -1.72 mm.

² These values are taken from instrument mounted in the observatory park, 1.5 meters
above ground.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS MAY, 1925—Continued**

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	Per cent		Per cent	
1-10.....	69.6	77.9	10	63.5	2
11-20.....	82.1	85.7	13	75.4	12
21-31.....	80.8	86.5	31	76.9	30

Date	Prevailing direction	Wind			Atmidometer * (open air)		
		Velocity			Total	Daily maximum	Day
		Total	Daily total maximum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	E quad	1,851.0	244.6	2	59.4	8.3	2
11-20.....	S quad	1,927.0	305.0	20	33.0	4.7	20
21-31.....	SW	2,834.5	324.0	26, 28	45.2	5.3	30

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	61 55	9 50	3	18.6	2
11-20.....	43 10	8 30	20	53.9	7
21-31.....	72 55	8 20	22	49.4	7

* These values are taken from instrument mounted in the observatory park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans.....	4	1	5	18.89
Filipinos.....	445	428	873	35.98
Spaniards.....	1		1	6.03
Other Europeans.....	2		2	20.93
Chinese.....	29	23	52	34.31
All Others.....	2	3	5	26.95
Total and average.....	483	455	938	35.41

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rate per 1,000
	Male	Female	Total	Male	Female	Total		
No. I, MEISIC:								
1. Tondo	134	126	260	6	6	12	272	40.74
2. San Nicolas	41	22	63	2	1	3	66	27.37
3. Binondo	17	26	43	2	3	5	48	32.94
Total	192	174	366	10	10	20	386	36.60
No. II, SAMPALOC:								
4. Santa Cruz	56	68	124	4	1	5	129	29.86
5. Quiapo	12	13	25	6		6	31	23.63
6. San Miguel	7	2	9				9	24.65
7. Sampaloc	75	67	142	7	5	12	154	46.92
Total	150	150	300	17	6	23	323	34.81
No. III, PACO:								
8. Port Area		1	1				1	2.51
9. Intramuros	11	12	23		2	2	25	20.67
10. Ermita	17	12	29		1	1	30	22.48
11. Malate	49	50	99	5	1	6	105	77.09
12. Paco	8	14	22	1		1	23	17.35
13. Pandacan	10	9	19				19	39.21
14. Santa Ana	11	12	23	2	1	3	26	47.11
Total	106	110	216	8	5	13	229	34.35
Grand total	448	434	882	35	21	56	938	35.41

Attended by physicians, living	167; Stillbirths	15
Attended by midwife, living	124; Stillbirths	1
Attended by family, living	647; Stillbirths	18

**NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN
THE CITY OF MANILA, BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans	2		2	7.52
Filipinos	266	204	470	19.37
Spaniards		1	1	6.03
Other Europeans	1		1	10.46
Chinese	21	3	24	15.84
All Others	1		1	5.39
Total and average	291	208	499	18.84

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married	103	85
Divorced		
Widowed	26	42
Single	224	118
Condition not stated	2	
Total	355	245
Grand total	600	

Stillbirths	34
Number of deaths with medical attendance	386
Number of death without medical attendance	214

DEATHS BY DISTRICTS AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Districts	Deaths	Annual death rate per 1,000
No. I, MEISIC:		
1 Tondo.....	147	22.02
2 San Nicolas.....	40	16.59
3 Binondo.....	24	16.47
Total.....	211	20.01
No. II, SAMPALOC:		
4 Santa Cruz.....	76	17.59
5 Quiapo.....	12	9.15
6 San Miguel.....	5	13.64
7 Sampaloc.....	75	22.85
Total.....	168	18.10
No. III, PACO:		
8 Port Area.....	15	12.40
9 Intramuros.....	9	6.74
10 Ermita.....	56	41.12
11 Malate.....	22	16.59
12 Paco.....	6	12.38
13 Pandacan.....	12	21.74
14 Santa Ana.....		
Total.....	120	18.00
Grand total.....	499	18.84

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	87	53	15	7	162
1 year plus.....	31	17	1	3	52
2 years plus.....	12	7	1	1	21
3 years plus.....	2	5	1		8
4 years plus.....	2	2	1	1	6
5 to 9 years.....	10	8			18
10 to 14 years.....	5	2	5	1	13
15 to 19 years.....	6	6	4	1	17
20 to 24 years.....	17	11	3	2	33
25 to 29 years.....	14	11	6		31
30 to 34 years.....	8	7	6	3	24
35 to 39 years.....	11	8	3	3	25
40 to 44 years.....	10	13	3		26
45 to 49 years.....	15	15	3	5	38
50 to 54 years.....	18	8	1		27
55 to 59 years.....	14	2	4	2	22
60 to 64 years.....	11	6	2	2	21
65 to 69 years.....	4	1	2	1	8
70 to 74 years.....	4	6	1	2	13
75 to 79 years.....	5	5			10
80 to 84 years.....	2	5		3	10
85 to 89 years.....		2			2
90 to 94 years.....	2	5			7
95 to 99 years.....		2			2
100 years and over.....		1	1		2
Age not stated.....	1				1
Total.....	291	208	63	37	599

One (1) male Filipino, 21 years of age, permanent residence unknown, not included in the above table.

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH AND MUNICIPAL DISTRICTS

Age groups	Health districts													
	No. 1, Meisic				No. 2, Sampaloc									
	No. 1, Tondo		No. 2, San Nicolas		No. 3, Binondo		No. 4, Santa Cruz		No. 5, Quiapo		No. 6, San Miguel		No. 7, Sampaloc	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year	23	21	4	2	1	6	12	7	5	1	16	6	16	6
1 year plus	11	6	2	2	1	2	3	3			7	3	7	3
2 years plus	2	1	2	1	1	1	4	2			2	1	2	1
3 years plus	2	1												
4 years plus	1	1												
5 to 9 years	5	3				2		2			2	1	2	1
10 to 14 years			1	1				1						
15 to 19 years	4	1	1	1				1						
20 to 24 years	3	3	3	1	1	2	5	2	2	2	2	3	2	3
25 to 29 years	4	2	1	1			3	1	1	1				
30 to 34 years	3	1					3	1						
35 to 39 years	3	3	1	1			5	1		1				
40 to 44 years	4	4			2		1	3					3	3
45 to 49 years	2	7	1	1	2		3	3	1				1	1
50 to 54 years	5	3	2	2	1		5	3					3	3
55 to 59 years	1	3	1	1			1	1	1				1	1
60 to 64 years	4	3	2	2	2		2	1					2	2
65 to 69 years	1	1	1	1			1						1	1
70 to 74 years	3	2	1	1	1		1	1					2	1
75 to 79 years	1	1	1	1										
80 to 84 years														
85 to 89 years														
90 to 94 years														
95 to 99 years														
100 years and over								2				1		1
Age not stated			1											
Total	83	64	25	15	11	13	49	27	10	2	4	1	41	84
Grand total	147		40	24			76		12		5		75	

VI. Diseases of the digestive system

108-127	Ulcer of the stomach and duodenum:	1	1	1	2
111	a. Ulcer of the stomach.	1	1	1	1
113	b. Ulcer of the duodenum.	10	8	1	18
114	Diarrhea and enteritis (under 2 years of age)	1	4		6
115	Diarrhea and enteritis (2 years and over)	2			2
116	Diseases due to other intestinal parasites:	2			1
117	c. Nematodes (other than ancylostoma).	1			1
118	Appendicitis and typhlitis.	1			1
	Hernia, intestinal obstruction:	1	1		2
	a. Hernia.	1	1		1
	b. Intestinal obstruction.	1	1		1
119	Other diseases of the intestines.				1
122	Cirrhosis of the liver:				3
124	b. Not specified as alcoholic.	1	2		1
126	Other diseases of the liver.		1		1
	Peritonitis without specified cause				
128-142	VII. Nonvenereal diseases of the genito-urinary system and annexa				
128	Acute nephritis (including unspecified under 10 years of age)	8	2		10
129	Chronic nephritis (including unspecified 10 years and over)	4	11		18
131	Other diseases of the kidneys and annexa.		1		1
138	Salpingitis and pelvic abscess (female)		1		1
143-160	VIII. The puerperal state				
144	Puerperal hemorrhage.	1	1		1
146	Puerperal septicaemia.	4	4		4
148	Puerperal albuminuria and convulsions.		1		1
149	Following child birth (not otherwise defined)		1		1
151-164	IX. Diseases of the skin and of the cellular tissue				
153	Acute abscess.	2	1		3
154	Other diseases of the skin and annexa.	2			3
159-	XI. Malformations				
159	Congenital malformations (stillbirths not included):				
	a. Congenital hydrocephalus.	2	1		1
	b. Congenital malformations of the heart.				3
160-163	XII. Early infancy				
160	Congenital debility, icterus, and sclerema.	20	6		27
161	Premature birth; injury at birth:	2	1		3
161	a. Premature birth (not stillborn)	1	1		2
162	Other diseases peculiar to early infancy.				

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		Ali others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
164—														
164	<i>XIII. Old age</i>													13
165-203	Semility.....			1	11		1							
	<i>XIV. External causes</i>													
170	Suicide by firearms.....	1												2
171	Suicide by cutting or piercing instruments.....			2										1
177	Other acute accidental poisoning (gas excepted).....									1				1
182	Accidental drowning.....			3						1				4
186	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	a. Railroad accidents.....			2										2
	c. Automobile accidents.....			1										1
196	Other accidental electric shocks.....				2									2
202	Other external violence.....			1										1
	Total.....	2		266	204		1	1	1	21	3	1		499
	Grand total.....	2		470		1	1	1	1	24		1		

One (1) male Filipino, 21 years of age, permanent residence unknown, not included in the above table.

One (1) male Filipino, 21 years of age, permanent residence unknown, not included in the above table.

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough.....					1	1
21. Erysipelas.....					1	1
29. Tetanus:						
a. Umbilical.....				7		7
31. Tuberculosis of the respiratory system.....					1	1
32. Tuberculosis of the meninges and central nervous system.....					1	1
38. Syphilis.....					1	1
41. Purulent infection, septicemia.....					1	1
55. Beriberi:						
a. Infants.....			1	4	28	33
71. Meningitis:						
a. Simple meningitis.....					4	4
99. Bronchitis:						
a. Acute.....				1	17	18
b. Chronic.....					4	4
100. Bronchopneumonia.....						
a. Bronchopneumonia.....					26	26
b. Capillary bronchitis.....					3	3
101. Pneumonia:						
a. Lobar.....					1	1
113. Diarrhea and enteritis.....					14	14
119. Other diseases of the intestines.....				1		1
128. Acute nephritis.....					3	3
131. Other diseases of the kidneys and annexa.....					1	1
154. Other diseases of the skin and annexa.....					3	3
159. Congenital malformations (stillbirths not included):						
a. Congenital hydrocephalus.....				1		1
b. Congenital malformations of the heart.....				1	2	3
160. Congenital debility, icterus and sclerema.....	15	3	1	3	6	28
161. Premature birth: Injury at birth:						
a. Premature birth (not still-born).....	3					3
162. Other diseases peculiar to early infancy.....				2		2
196. Other accidental electric shocks.....					1	1
Total.....	18	3	2	20	119	162

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	19,561
Number of rats caught by spring traps.....	2,641
Number of cage wire traps set.....	744
Number of rats caught by cage wire traps.....	3
Number and kind of baits (coconuts).....	20,305
Number of poison portions placed.....	13,941
Number of rats found poisoned.....	433
Number of rats killed by clubs and other weapons.....	1,078
Number of rats found dead from other causes.....	680
Total number of rats otherwise caught, found dead killed.....	4,835
Total number of rats sent to the Laboratory for examination.....	4,835
Total number of rats found positive for plague.....	0

DYSENTERIES REPORTED DURING THE MONTH OF MAY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.....	1	1	1										1	1	1	1			2	1
{No. 1.....																				
{No. 2.....																				
{No. 3.....																				
{No. 4.....																				
{No. 5.....																				
{No. 6.....																				
{No. 7.....																				
{No. 8.....																				
{No. 9.....																				
{No. 10.....																				
{No. 11.....																				
{No. 12.....																				
{No. 13.....																				
{No. 14.....																				
Transients.																				
Total.....	1	2	1							1	1	1	1	1	2	2	1		3	3

REMARKS:

Total cases reported within the month in the City of Manila.....

Resident cases.....

Non-resident cases.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases.....

Deaths among non-resident cases.....

Total cases not confirmed as dysentery.....

10

7

3

8

0

7

Dysentery carrier—None.

CHOLERA REPORTED DURING THE MONTH OF MAY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home				Total				Grand total	
	Male			Female			Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.															
	No. 2.															
	No. 3.															
	No. 4.															
	No. 5.															
II.	No. 6.															
	No. 7.															
	No. 8.															
	No. 9.															
	No. 10.															
	No. 11.															
	No. 12.															
	No. 13.															
	No. 14.															
	Transient.															
	Total.															

REMARKS:

Total cases reported within the month in the City of Manila.....

Resident cases.....

Nonresident cases.....

Foreign cases.....

Resident cases not confirmed as Cholera.....

Nonresident cases not confirmed as Cholera.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases confirmed as Cholera.....

Deaths among nonresident cases confirmed as Cholera.....

Cholera Carrier—3

0

0

DIPHTHERIA REPORTED DURING THE MONTH OF MAY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total		
	Male		Female		Male		Female		Male		Female		Cases	Deaths	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths			
I.	No. 1.			1	1							1	1	1	1
	No. 2.														
	No. 3.			1	1							1	1	1	1
	No. 4.	1	1							1	1			1	1
II.	No. 5.														
	No. 6.														
	No. 7.	1								1				1	
	No. 8.														
	No. 9.														
	No. 10.														
	No. 11.														
	No. 12.	1								1				1	
III.	No. 13.														
	No. 14.	1	1	1	1					1	1	1	1	2	2
	Transients.														
	Total.	4	2	3	3					4	2	3	3	7	5

REMARKS:

Total cases reported within the month in the City of Manila.

Resident cases

Non-resident cases

Resident cases not confirmed as Diphtheria

Non-resident cases not confirmed as Diphtheria

Total deaths reported within the month in the City of Manila

Deaths among resident cases confirmed as Diphtheria

Deaths among resident cases not confirmed as Diphtheria

Deaths among non-resident cases confirmed as Diphtheria

Diphtheria Carrier—1

18

11

7

6

5

5

3

0

2

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF MAY, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	17	4	6	
Varicella	12	1		
Varioloid				
Smallpox				
Measles	2	1		
Whooping cough	1	1	1	1
Influenza	11	2	4	
Bubonic plague				
Encephalitis lethargica	1			
Meningitis cerebrospinal epidemic		2		2
Pulmonary tuberculosis	111	82	67	52
Tuberculosis of all forms	6	3	7	3
Beriberi, infantile	19	11	19	11
Beriberi, adult	2		2	

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	5	3	2	1
Varicella	5	1		
Varioloid				
Smallpox				
Measles				
Whooping cough	1			
Influenza				
Bubonic plague				
Encephalitis lethargica				
Meningitis cerebrospinal epidemic		1		1
Pulmonary tuberculosis	18	9	11	4
Tuberculosis of all forms	1		1	
Beriberi, infantile	2	1	2	1
Beriberi, adult				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF MAY, 1925**

Sera and vaccines	On hand May 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Anti diphtheric serum (units)	790,000		790,000	620,000	170,000
Anti dysenteric serum (ampoules)	74	100	174	104	70
Anti tetanic serum (units)		30,000	30,000	30,000	
Cholera vaccine (c.c.)	44,590		44,590	6,900	37,690
Dried vaccine virus (units)	43,000	95,000	138,000	95,400	42,600
Fresh vaccine virus (units)	59,650	200,000	259,650	199,450	60,200
Gramococcus vaccine (ampoules)		50	50	50	
Mixed cholera typhoid vaccine (c.c.)	19,330	72,000	82,330	65,120	16,210
Normal horse serum (ampoules)					
Streptococcus vaccine (ampoules)					
Typhoid vaccine (c.c.)	13,860	12,000	25,860	7,920	17,940

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MAY, 1925

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated						Total		
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over				
			Never	Successfully	Unsuccessful	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1.	Tondo.	2,080	260	1,768	52	168	35	30	18	20	27	218	80
	San Nicolas.	337	35	294	8	55	6	6	5	10	10	71	21
	Binondo.	938	38	866	34	23				7	20	30	20
	Santa Cruz.	1,747	119	1,603	25	123	19	20	26	382	98	525	143
	Quiapo.	30	29		1	18	1					18	1
No. 2.	San Miguel.	21	19		2	13	2					13	2
	Sampaloc.	167	110	32	25	64	13					54	13
	Port Area.												
	Intramuros.	31	27		4	21	4					21	4
	Ermita.	50	16	29	5	10	2	5		15	11	30	13
No. 3.	Malate.	496	77	389	30	48	9	8	7	23	9	79	25
	Paco.	1,519	105	1,377	37	45	26	15	5	15	7	75	38
	Pandacan.	25	24		1	13	1	9				22	1
	Santa Ana.												
	Total.	7,441	859	6,358	224	601	118	93	61	472	182	1,166	361

Vaccine virus:

Received	16,300
Used	12,350
Remained	3,950

Health district	Municipal districts	Number of injections made in—										Total number of injections					
		Adults					Children					First			Second		
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		V.	R.	V.	R.
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.				
No. 1.	Tondo.....	192	188	234	174	104	...	195	36	153	11	91	...	387	224	387	188
	San Nicolas...	17	467	...	456	3	546	9	85	22	89	39	50	25	552	22	545
	Binondo.....	114	616	74	486	15	402	167	62	71	48	47	45	281	678	145	534
	Santa Cruz...	...	337	...	365	...	330	...	4	1	50	1	...	...	341	1	415
No. 2.	Quiapo.....	39	291	47	259	56	367	23	21	16	28	20	28	62	312	63	287
	San Miguel...	38	77	27	69	18	51	47	40	28	35	22	28	85	117	55	104
	Sampaloc...	85	173	40	142	28	353	3	9	14	9	11	4	88	182	54	151
	Port Area...	...	6	...	4	...	...	1	...	...	1	...	...	...	7	...	7
No. 3.	Intramuros...	...	107	...	55	...	50	6	...	1	2	1	2	6	107	1	57
	Ermita.....	38	95	42	95	20	76	26	46	32	50	12	40	64	141	74	145
	Malate.....	20	133	63	72	32	267	14	19	8	60	10	19	34	149	71	132
	Paco.....	66	139	27	91	12	51	55	56	35	43	10	26	121	195	62	134
	Pandacan...	4	255	...	129	...	88	10	108	4	46	3	...	14	364	4	175
	Santa Ana...	...	275	2	147	...	6	...	...	6	...	...	...	...	275	8	147
Total.....		613	3,157	556	2,546	288	2,591	555	487	391	475	287	280	1,168	3,614	947	3,021
																575	2,871

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V. in persons never vaccinated before; R. revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	2,558	845	581	1,132
Agusan.....	316	239	10	67
Albay.....	12,773	3,661	3,468	5,644
Bataan.....	6,079	1,646	2,427	2,006
Batanes.....	235	98	14	123
Batangas.....	8,099	2,641	1,551	3,907
Bohol.....	75,583	16,696	41,748	17,139
Bulacan.....	78,278	15,467	57,543	5,268
Cagayan.....	9,880	2,403	2,867	4,610
Camarines Norte.....	1,125	455	163	507
Camarines Sur.....	56,267	7,208	38,551	10,498
Capiz.....	33,960	10,184	20,101	3,675
Catanduanes.....	4,172	1,105	719	2,348
Cavite.....	13,129	1,958	7,661	3,510
Cebu.....	22,009	5,923	6,453	9,633
Cotabato.....	3,198	702	988	1,508
Culion Leper Colony.....	328	27	220	81
Ilocos Norte.....	499	213	103	183
Ilocos Sur.....	38,657	5,412	24,328	8,917
Iloilo.....	5,282	2,955	496	1,831
Isabela.....	5,569	1,530	2,316	1,723
Laguna.....	7,560	2,711	1,864	2,985
La Union.....	17,381	3,974	36,239	7,168
Leyte.....	22,889	8,827	3,531	10,531
Marinduque.....	2,572	622	992	958
Masbate.....	4,083	1,351	1,044	1,688
Misamis.....	32,469	10,341	16,777	5,351
Mountain Province.....	2,279	526	1,032	721
Nueva Ecija.....	6,648	3,542	1,102	2,004
Nueva Vizcaya.....	1,546	199	806	541
Occidental Negros.....	8,158	4,186	1,460	2,512
Oriental Negros.....	8,292	2,294	2,745	3,253
Pampanga.....	14,781	3,490	5,485	5,809
Pangasinan.....	14,305	6,646	732	6,927
Rizal.....	9,869	1,948	6,636	1,585
Samar.....	51,418	8,285	29,027	14,106
Sulu.....	6,492	2,580	2,050	1,862
Surigao.....	15,387	4,104	4,558	6,725
Tarlac.....	5,307	1,198	2,957	1,152
Tayabas.....	4,760	1,674	1,308	1,778
Zambales.....	932	193	419	320
Zamboanga.....	1,503	753	132	618
Total.....	616,630	150,812	333,004	162,814

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925¹ - Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
Aceh	248	144	615	559	326	483	1,189	1,186
Agusan	94	40	30	24	23	7	147	71
Albay	1,137	477	1,238	512	2,406	1,597	4,781	2,583
Bataan	932	156	1,533	851	1,476	863	3,941	1,870
Bataanes	23	7	97	45	47	12	167	64
Batangas	1,017	171	1,705	469	1,919	1,471	4,641	2,111
Bohol	2,034	277	8,966	1,362	26,553	19,257	37,553	20,896
Bulacan	4,352	367	8,657	1,589	22,214	17,011	35,223	18,967
Carayan	1,069	145	2,155	380	3,675	1,548	5,900	2,073
Camarines Norte	303	85	290	90	222	86	815	261
Camarines Sur	1,630	175	5,067	831	22,423	8,997	29,120	10,003
Capiz	1,723	197	4,079	591	11,584	2,766	17,386	3,554
Catanduanes	453	222	2,637	238	399	288	1,489	748
Cavite	1,260	143	2,409	476	6,142	2,630	9,811	3,249
Cebu	1,545	1,158	2,801	934	2,809	3,064	7,155	5,156
Cotabato	96	83	322	165	792	902	1,211	1,150
Culion Lepel Colony	19	6	8	3	173	119	260	128
Ilocos Norte	66	22	67	32	158	92	291	143
Ilocos Sur	2,474	471	6,977	1,934	15,855	6,698	25,306	9,103
Iloilo	950	77	1,173	256	991	507	3,114	846
Isabela	181	87	352	323	1,644	1,310	2,477	1,720
Laguna	1,098	380	1,336	515	1,546	2,042	3,980	2,937
La Union	1,454	158	4,590	1,947	14,541	11,166	20,585	13,271
Leyte	2,102	694	2,897	1,105	5,746	3,354	10,745	5,153
Marinduque	257	87	222	64	525	398	1,004	549
Masbate	298	150	528	227	626	576	1,452	953
Misamis	863	385	3,168	852	8,956	3,269	12,987	4,503
Mountain Province	97	4	300	100	491	418	888	522
Nueva Ecija	1,345	282	1,989	498	918	723	4,252	1,503
Nueva Vizcaya	112	8	204	92	609	463	925	563
Occidental Negros	1,678	386	1,601	505	1,523	541	4,802	1,432
Oriental Negros	1,000	335	1,384	621	2,091	1,084	4,475	2,040
Pampanga	1,629	302	2,253	536	6,026	5,007	9,908	5,845
Pangasinan	3,480	459	3,838	817	2,265	1,722	9,583	2,998
Rizal	1,087	163	1,073	404	2,079	3,233	4,239	3,800
Samar	1,155	337	4,893	1,538	17,309	6,995	23,357	8,870
Sulu	337	128	996	407	1,920	863	3,253	1,398
Surigao	453	138	1,664	350	4,223	1,903	6,840	2,391
Tarlac	626	111	737	311	1,254	1,868	2,617	2,290
Tayabas	537	143	858	276	1,453	833	2,848	1,252
Zambales	77	32	173	111	227	286	477	429
Zamboanga	180	94	213	99	219	125	612	318
Total	41,471	9,286	84,395	23,039	196,379	116,577	322,245	148,902

¹ Incomplete: reports from other provinces not yet received.

CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹

Provinces	Number of injections made in—												Total number of injections		
	Males						Females								
	First injections		Second injections		Third injections		First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.			
Agusan.	1,283	675	245	199			1,205	721	319	253			3,884	1,016	
Albay.															
Antique.															
Bataan.															
Batanes.	15	11					26	4					56		
Batangas.															
Bohol.															
Bulacan.	356	281					312	221					1,170		
Cagayan.															
Camarines Sur.															
Catanduanes.	2	65	2	88			1	56	1	68			124	159	
Gebu.	568	666	10	18			400	653	8	21			2,287	57	
Cotabato.															
Davao.															
Ilocos Sur.															
Iloilo.															
Laguna.															
La Union.															
Leyte.															
Marinduque.															
Maabate.															
Mindoro.															
Mountain Province.															
Nueva Ecija.															
Nueva Vizcaya.															
Occidental Negros.															
Oriental Negros.															
Pampanga.															
Pangasinan.															
Sulu.	5	20	5	17			5	25	4	22			55	48	
Tarlac.															
Tayabas.															
Total.	2,229	1,718	262	322			1,949	1,680	332	364			7,576	1,280	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

Provinces	Number of injections made in—												Total number of injections	
	Males						Females							
	First injections		Second injections		Third injections		First injections		Second injections		Third injections			
	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.	A.	C.		
Agusan.....														
Albay.....														
Antique.....														
Bataan.....														
Batanes.....														
Batangas.....														
Bohol.....														
Bulacan.....	355	140	330	132	261	92	387	159	365	147	295	96	1,041	974
Cagayan.....														744
Camarines Sur.....														
Catanduanes.....	54	72	1	1			90	54					280	2
Cebu.....														
Cotabato.....														
Davao.....														
Ilocos Sur.....														
Iloilo.....	44	30	12	6	10	6	72	16	34	2	42	2	162	54
Laguna.....														60
La Union.....														
Leyte.....	12	37	9	6			41	28	25	16			118	56
Marinduque.....														
Masbate.....														
Mindoro.....														
Mountain Province.....														
Nueva Ecija.....														
Nueva Vizcaya.....														
Occidental Negros.....														
Oriental Negros.....														
Pampanga.....														
Pangasinan.....														
Sulu.....	78	29	25	11			47	60	10	13			214	59
Tarlac.....														
Tayabas.....														
Total.....	553	308	377	156	271	98	637	317	434	178	337	98	1,815	1,145
														804

1 Incomplete: reports from other provinces not yet received. A. means persons of 15 and over 15 years of age; C. below 15 years of age.

CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925

Number of injections made in —

Provinces	Males						Females						Total number of injections								
	First injections			Second injections			Third injections			First injections						Second injections			Third injections		
	A.		C.	A.		C.	A.		C.	A.		C.				A.		C.	A.		C.
	A.	C.		A.	C.		A.	C.		A.	C.		A.	C.		A.	C.				
Agusan	10	5		17			12	6		11			33	28							
Albay	181	490		71	116		156	450		59	117		1,277	363							
Antique	553	204		191	71		365	133		139	43		1,255	444							
Bataan																					
Batanes	35	24		22	18		59	22		52	14		140	106							
Batangas	181	41		116	41		198	121		121	100		541	378							
Bohol	551	251		458	217		567	233		461	192		1,602	1,328							
Bulacan	221	110		61	67		86	100		30	62		517	220							
Cagayan	294	197		110	147		177	93		35	63		761	355							
Camarines Sur																					
Catanduanes																					
Cebu	2,374	1,691		675	367		2,001	1,228		534	266		7,294	1,842							
Cotabato	153	7		8			37	5		1			202	9							
Davao	30			2			12			42			2								
Ilocos Sur	591	238		469	147		415	222		271	159		1,466	1,046							
Iloilo	83	78		62	45		86	67		54	19		314	180							
Laguna	497	429		227	357		451	325		323	396		1,712	1,303							
La Union	402	209		139	272		293	166		76	197		1,070	684							
Leyte	331	152		331	98		527	130		455	79		1,144	963							
Marinduque	385	508		284	270		298	454		158	269		1,645	981							
Masbate	4			67						33			4	100							
Mindoro																					
Mountain Province	130	113					83	123													
Nueva Ecija	31	4		33	8		50	8		51	20		419								
Nueva Vizcaya	58	204		58	204		33	219		33	219		514								
Occidental Negros	747	240		242	27		425	331		168	125		1,743	562							
Oriental Negros	286	41		21	5		150	38		16	7		515	49							
Pampanga	3,066	3,170		2,073	2,662		3,686	2,564		2,372	2,027		12,486	9,134							
Pangasinan	246	312		118	227		221	293		166	196		1,072	707							
Sulu	25			19			5			4			30	23							
Tarlac	24	80		17	52		25	71		18	51		200	138							
Tayabas	249	132		83	79		159	17		35	8		557	205							
Total	11,712	8,930		5,974	5,497		10,577	7,429		5,676	4,629		38,648	21,776							

† Incomplete; reports from other provinces not yet received.

A. Means persons of 15 and over 15 years of age; C. below 15 years of age.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF MAY, 1925**

No case and no death reported during the month

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF MAY, 1925**

No case and no death reported during the month

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF MAY, 1925**

	Health districts—			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending May 1, 1925:				
Minor	124	58	30	242
Sewer	27	54	15	96
Vacating	11	14	13	41
Filling	10	24	7	41
Total	172	150	98	420
Orders issued during the month:				
Minor	14	25	21	60
Sewer	1	3		4
Vacating				
Filling				
Total	15	28	21	64
Orders completed during the month:				
Minor	20	11	12	43
Sewer	1			1
Vacating				
Filling				
Total	21	11	12	44
Orders cancelled during the month:				
Minor	4			4
Sewer				
Vacating				
Filling				
Total	4			4
Orders pending, May 31, 1925:				
Minor	114	72	69	255
Sewer	27	57	15	99
Vacating	11	14	16	41
Filling	10	24	7	41
Total	162	167	107	436
Strong material plans approved:				
New buildings including additions and alterations	15	49	38	102
Permits for minor building constructions:				
Approved	73	67	35	175
Disapproved	31	18	25	74
New buildings completed	6	15	22	43
Permits for light and mixed material constructions:				
Approved	76	67	29	172
Disapproved	32	14	22	68
Prosecutions:				
Convictions				
Dismissals				
Amount of fines				
Plumbing permits issued	49	87	55	191
Plumbing projects completed	37	46	34	117
Premises connected to the sanitary sewer to April 30, 1925	2,420	4,099	470	6,989
Premises connected during the month	2	4	7	13
Total	2,422	4,103	477	7,002

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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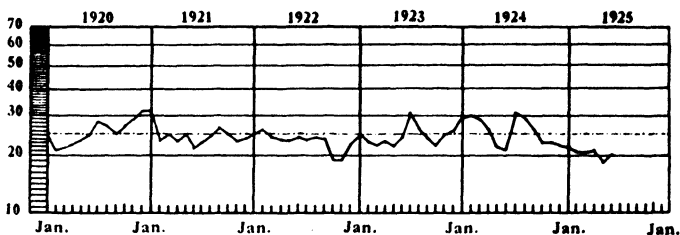
No. 6

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



..... Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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No. 6

**THE ISOLATION OF HOOKWORM LARVA FROM THE
SOIL AS AN AID IN SANITATION WORK**

By CRISTOBAL MANALANG, M.D.

Philippine Health Service

The use of Baermann's apparatus by the writer in studying soil pollution in different localities and its relation to the intensity of hookworm infestation as determined either by worm counts after a trial treatment or by the determination of the average ova content per gram of feces, has suggested a simple, rapid, and inexpensive aid which should be tried in the hands of health officers in those places where hookworm infestation is prevalent.

In a community where intestinal infections (typhoid, cholera, and the dysenteries, particularly bacillary) are prevalent or liable to prevail one of the principal duties of the health officer after making a diagnosis is to locate the source of infection. The usual agent suspected is drinking water, and in localities where no modern water supply is in use, he is duty bound to submit many samples of water from any sources and rapidly transport them to a laboratory for biological examination.

The biological examination of water looks for presumptive test and a member of the *B. coli* group coupled with high count is considered condemnatory. The presence of a member of *B. coli* group is usually taken as evidence of fecal contamination. The intricate laboratory methods, however, for differentiating *B. coli* of animal and plant origin is, as a rule, not done and is still controversial.

The examinations of water sample take time, transporting also takes time, besides the possible alteration in the bacteriology of the water during the transit. Improper collection or dirty containers also alters the biology of the water. The laboratory needs not only relatively expensive materials but also the time and labor of a specially trained laboratory man. During the transit of the water sample and the time consumed for culturing and identifying members of *B. coli* group, the infection in the locality continues. In a locality where a laboratory is situated, this procedure is perfectly practical, but in the provinces and distant islands from a city the situation is different and liable to be serious.

Rapid diagnosis and location of the source of infection should be the basis for a sanitation in combating any communicable intestinal disease.

In all districts, therefore, where the infection rate of hookworm is known to be high the Baermann method for isolating hookworm larva from the soil should be tried in studying pollution of potable water by examining soil samples from its vicinity and any place suspected to be contaminated by surface washing, by rain, or seepage or otherwise. This method has the following advantages:

1. The recognition of hookworm larva is so simple that anybody who recognizes hookworm ova or strongyloid larvæ and can use a microscope with a $\frac{3}{8}$ and $\frac{1}{8}$ objectives could learn it by himself. All he has to do is to study larvæ from a known hookworm culture.

2. Simplicity and inexpensiveness of apparatus: funnels, rubber tube clamps (Hoffman's or anything that will clamp the rubber tube such as paper clips, cloth pins, etc.), metallic wire screen molded to fit the funnel, gauze, slides, a thermometer 1–100° C., hand centrifuge and tubes (for centrifuge tubes use Wassermann tubes, 1 by 10 centimeters, eliminating the expensive ordinary tapering bottom tubes).

3. Rapidity of isolation: 1 hour and 45 minutes is the quickest I have observed. If the soilds are set up in the evening, the larvæ will be down by the morning.

4. Long life of the larva in soil. This is an advantage in distant places where the transportation of the samples takes weeks:

METHOD OF ISOLATION

Slip about 10 centimeters of rubber tubing with Hoffman clamp, on the stem of a funnel of about 10 centimeters top diam-

eter and set on a rack. A piece of wire cloth is shaped to fit inside the funnel lined with gauze and one to two table spoons of loosened soil placed on the wire cloth. In the absence of wire cloth "sucob" or "tayod" may be used instead. Then water at 40° to 45° C. is carefully poured on the side of the funnel until the soil is covered. In 12 to 24 hours centrifuge the fluid drawn from the rubber tube for 2 to 3 minutes, throw or pipette off at once the supernatant fluid leaving about 1 cubic centimeter of the sediment. Place this on a slide and examine without cover glass under low power objective (\times), the larvæ will be seen either motile or not motile, varying in size according to their age. A battery 12 or more funnels may be put up when many samples are examined at a time.

The best way to acquaint with their characteristics to differentiate them from free-living larvæ of some soil, is to study a soil culture of known hookworm egg containing stool. This is done by mixing say one part of stool to 4 or 5 parts of soil (preferably humus or loam) previously heated on a pan to 90–100° C., to kill the free-living larvæ if there be any. The soil culture is put in the Baermann after 4–5 days.

Precautions.—Obtain soil from shaded regions, as areas exposed to the sun, particular if dry, are often sterile larvæ. Avoid carrying soil from one sample to another by means of the digger or hands (there should be clean digger (a piece of bamboo or spoon) and container or stiff paper or used envelopes for each sample). A handfull will suffice for a funnel with about 10 centimeters top diameter. The collector should not obtain the soil he has trodden as he may carry larvæ in the soles of his feet. Humus and loam are better soils for growth of larvæ than sand or clay.

A point that I believe need not trouble the examiner is the differentiation between the larvæ of hookworm of cat, dog, and sheep origin, as stools of these animals are not likely near drinking water.

Baermann's method is now in use in studying the efficiency of the standard provincial form of latrine (the Antipolo system) as prescribed by the Philippine Health Service from the stand point of larval immigration.

SUMMARY

1. The Baermann apparatus for the isolation of hookworm larvæ from the soil is proposed to be tried by health officers in localities where hookworm incidence is known to be high, as an aid in sanitation work, not only in the determination of the

extent and degree of soil pollution but also in determining the possibility of fecal pollution of drinking water, especially in the investigation of the origin of infection of such intestinal diseases as cholera, typhoid, and bacillary dysentery.

2. The work can be done in any locality where there is a low power microscope and hand centrifuge, few, cheap, simple and easily obtainable glasswares, and by a man of very little technical training. The procedure is easy, rapid, and could easily be learned alone.

3. Certain simple precautions should be observed in collecting soil samples to avoid faulty interpretations and gain the maximum information.

4. The differentiation of human hookworm larvæ from those of dog, cat, or sheep hookworm need not trouble the examiner from the sanitary point of view as the stools of these animals are not placed near drinking water.

HOSPITAL AND DISPENSARY ADMINISTRATION PLANS AND PURPOSES

By SIXTO Y. OROSA, M.D.

Philippine Health Service

The population of the Philippines having no access to hospital facilities is generally placed at 7,200,000 persons. It is, therefore, evident that the construction and maintenance of hospitals and dispensaries is of foremost importance, and it should receive the most careful consideration from all of us. For the last ten years there have been sporadic requests for hospitals from the provincial and municipal authorities, but of late these requests have become more widespread and persistent; and in guiding this public demand, the district health officers shared not a little.

The management of hospitals covers such a diversity of subjects, ranging from the keeping of records, the collection of bills, accounting, fire-drill, provision for the mental and spiritual comfort of the patient, and one thousand and one other things, that only a few of its phases can be briefly touched upon at the present time. The administration of hospitals will naturally revolve around the following points:

1. Determination and arrangement of the resources, the assets, and liabilities.
2. Organization of personnel, administrative and technical.
3. Adequate care and treatment of the sick and the injured.
4. Prevention of the spread of communicable diseases.
5. Laboratory work.
6. Use of X-ray, radium, and other modern diagnostic and therapeutic appliances.
7. Training of personnel.
8. Research work.
9. A complete system of records.
10. Social, spiritual, and mental welfare of the patients and personnel.

A modern hospital has been defined as "a great public utility, the combined school and workshop of modern medicine, and a community health-center in all that the name implies." In well-organized hospitals, two types of professional work have been developed; first, what may be called the "retail," or clinical,

which may be reduced to the personal examination, care, and treatment of the patient; and, second, the "wholesale" (if we may so call it), which is the "application of medical service through the organization of larger groups of clinical physicians, nurses, etc., into a smoothly working composite unit, serving relatively greater numbers than the same personnel could serve working individually." The management of such a unit has become a real specialty, which in other countries has attained a high degree of development and has become an attractive and remunerative career.

The welfare of the patients depends quite as much upon the character of the hospital service as upon the skill of the clinicians and vice versa, for the skill of a surgeon in his chosen work can not prevent the disastrous effects of a leaking hot-water bag. There should, therefore, be the closest coöperation between the administrative, the clinical, and the nursing units. Present circumstances, however, compel that physicians detailed to hospitals should be administrators, surgeons, clinicians, and perhaps specialists, all at the same time. But let us hope that, in a not distant future, the hospitals and future hospitals of the Philippine Health Service will have more adequate means and facilities and the necessary personnel to make the division of labor more systematic and scientific.

The provincial hospitals will naturally have to be general and public in the sense that the vast majority of diseases will be taken care of, and that free and pay-patients will have to be admitted. In general, the open-door policy will be adopted, that is, the patients are free to employ private, reputable physicians.

I just wish to mention here several points which, I think, should be taken into consideration by persons managing new hospitals or those which have not yet made the necessary reputation or which have not so far gained the confidence of the general public. These points are: (1) that the personnel should attempt to make the institution popular, the first few patients should be judiciously selected; that is, incurable or dying patients should be tactfully excluded; (2) the poor should receive attention and accommodation equal to that afforded pay-patients. The erroneous idea that, for charity patients, "almost anything is good enough," will have to be corrected and overcome. The hospital personnel should likewise take into consideration the fact that the institution should be a living example of a sanitary life.

In order to insure the long and prosperous life of a hospital, we should insist upon economy and efficiency. This requirement will mean proper selection of personnel, both administrative and clinical. Generally, in recommending physicians for appointment, preference should be given to those who have had at least one year residentship in a hospital of good repute. If funds allow, at least two resident physicians should be assigned to each hospital, one proficient in surgery, the other in medicine; and whenever and wherever circumstances require and permit, a training school for nurses, midwives, or attendants should be attached to provincial hospitals.

We shall now come to the plan and purposes. The Philippine Health Service has adopted a tentative standard-plan for provincial hospitals, "under which a province may construct a hospital in progressive stages as funds become available and a greater use of the hospital by the people makes more accommodations and better facilities necessary." There are five stages, of which No. 1 must always be constructed first, while the rest can be constructed at the same time or subsequently in such a way that no structural alterations will be necessary in order to expand the hospital later to the full extent desired. In general, the appearance is designed to add greatly to the attractiveness of any community.

Each stage is a complete unit by itself, and the structural features are such as to be able to meet the varying hospital needs of the different provinces. The plan will ultimately meet future needs for many years, as well as provide at once for present necessities. The entire plan will require a ground-area of not less than 120 meters by 100 meters. In the selection of the site, the following points will have to be taken into consideration: (1) location, with particular reference to neighboring towns, population, and roads, (2) drainage, (3) elevation, (4) surroundings, and (5) presence of water and sewer systems.

The crying need for hospitals and dispensaries should somehow or other be supplied. We can perform no greater duty than to provide more than seven millions of our inhabitants with hospital facilities. It has been well hinted at that to our right to life, liberty, and the pursuit of happiness, there should be added our right to health. There should be a new test of efficiency for our health officers; that is, of their ability to interest the people and authorities in their respective districts to collect the necessary funds for the construction and maintenance of hospitals and dispensaries where there is none, and

where these are present, their ability to administer them efficiently. When we shall have hospitals and dispensaries to every municipality, we may fairly hope effectively and permanently to lower our morbidity and mortality, increase the vigor, health, prosperity, and happiness of our communities.

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THE RÔLE OF THE HOSPITALS IN A PUBLIC HEALTH CAMPAIGN

By E. D. AGUILAR
Medical Inspector, P. H. S.

It has been demonstrated that a hospital is performing not one but several rôles in the health movement of which the exceedingly important one is the care and treatment of infectious diseases, the classes of diseases that are of the greatest significance to mankind. Previously these diseases have been prevailing to a great extent in these places. Their rapid control, however, was made possible by hospitalization of cases. It has been observed that, after all, the control of epidemics means the control of the persons which can best be done by proper isolation. It is experienced that a hospital is the best place for this purpose. Home quarantine at best is regarded as tiresome, unscientific, and inefficient. Besides being expensive for both the Government and the family to enforce, it often forces to earning members to remain at home which means suspension of production, loss of wages, and sometimes forces the wage earners to become burdens upon the community. Furthermore, sanitary isolation is so difficult to accomplish in the home that the presence of a communicable disease therein is a distinct menace not only to the other members of the household but to the community at large.

Another rôle played by the hospital in the public-health campaign is the education of the individual in the principles of personal hygiene and improved standard of living. Over other educational agencies, the hospital has a distinct advantage. Its lessons in personal hygiene, whether given intentionally or by example, come at a time when the patient realizes as at no other time the value of health and is most anxious to do what he is most amenable to instruction of this kind, and that the lessons make the deepest and most lasting impression. Hospitals, therefore, will neglect no opportunity to teach patients the lessons that pertain to food, clothing, and to the mental attitudes toward our fellowmen that makes for a sane and happy life. This kind of education should not be limited only to in-

patients. It should also be extended to the out-patients thru its dispensary, and the public in general, thru its visiting or social service nurses by way of home visits or public lectures.

Lastly, if a hospital is to function as a scientific institution for the promotion and conservation of public health it must play an ever-increasing part in the prevention and early detection of disease. There are various ways by which this can be accomplished. Among them are the performance of routine examination of excreta and blood for parasites, registration and vaccination of the new-born, and the practice of post-mortem examination on all cases of death among in-patients. The former is very necessary for the detection, isolation, and treatment of germ or parasite carriers which are endangering public health and the latter for the confirmation of the presence or absence of communicable disease in suspected cases so that the necessary precautionary measure if any is needed could be instituted and for the detection of communicable diseases among those non-suspected cases which sometimes happen. Also in the out-patients section or in the dispensary, patients should always be encouraged to submit themselves for a complete physical and mental examination because an examination of apparently healthy person will sometimes reveal existing defects which, if not timely detected, cannot be treated at its incipient stage which is necessary to prevent the more severe encroachments of the disease. By periodical examination, well members of the community are kept well and sick members are given timely remedy. In the home, visiting or social service nurses should assist in correcting conditions that make for physical breakdown and should remedy faulty habits of personal hygiene because by this practice patients who might and often would otherwise shortly enter the hospital are kept from physical defects and returned to normal health and efficiency.

SOCIAL VALUES OF A PROFESSION

By S. E. MACARAIG

Professor of Sociology, University of the Philippines

POSSESSION OF DEGREE

The social status of the professional is no longer a vision. It is a fact and a social force running in conflict against the whims and fancies of the leisured and wealthy class of people. The possession of a degree is an insurance of potential leadership or of social standing in the community. The community looks upon him as their leader and benefactor and their guide in every small matter which concerns their community. Thus the lawyers, the doctors, and other professionals have come to form a distinct and permanent strata of "high class" provincial life. Social gatherings are considered not of the élite class unless the professionals of the town are invited. A young man without a degree but with all initiative, energy, and enthusiasm for work does not receive very much attention when it comes to an elective position. The professional, be he a doctor, a lawyer, or a pharmacist, always gets the position so much coveted. In the field of social service the professionals are depended upon a great deal. They are leaders in philanthropic movement; they are initiators of social improvements and are always the life, energy, and the moving spirit of all town and provincial enterprises. The position of the professional is unchallenged, and in the Philippines nowadays it has a position equal to or even higher than the so-called moneyed or leisure class.

But against this protection extended by the community, and the social status accorded to the professionals by society, are corresponding duties and responsibilities which must be rendered to the people in a spirit of civism. That feeling calls for what is known as the professional spirit—the unselfish desire to subordinate personal gain for the aims of service and social welfare. This is where privileges end and duties begin and it is indeed the demarcation line between the callings and the profession, which makes the latter think in terms of supreme welfare of the community and not in terms of individual profit. Thus a lawyer should not be interested in a contingent fee nor in his glory and individual success in a case where technicalities may defeat the ends of justice. The lawyer must necessarily sacrifice the technicalities of the law, the individual interest of his clients and see to it that justice is meted out as it should be. The doctor should not also look in the services of his profession from the standpoint of his individual success. He must ever be ready to render services any time, anywhere, and whenever necessary. He should not be selfish and should give to the world the discovery of his practice and the benefit of his experience. The ideal of service must necessarily call for the risk of the life of a doctor. He must always be ready to resist and stamp out plague and epidemic even at the risk of his own life. Truth and the welfare of his country must stand supreme in all his efforts. The community welfare must be above the interest of his clients and must be made to yield to the benign influence of truth, individual comforts, and idiosyncracies. Contagious diseases must necessarily be exposed to the public for the protection of those who are clean, healthy, and vigorous. These are the demands of the professional spirit which are sadly wanting in the minds of many of our professionals.

EDITORIAL

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COMMENTS ON CURRENT EVENTS

The construction of hospitals under Acts 3114 and 3168 had hardly begun when prognostication for the proposed hospitals were made by prominent persons in the press or otherwise to the effect that the said hospitals were doomed to failure for one reason or another. The assertion was made that patients in Tarlac, Tayabas, and Laguna would rather come to Manila than enter these hospitals the construction of which in those places at the time was being negotiated. At that time when the severest criticisms were leveled against the hospital projects, the Philippine Health Service, on December 11, 1924, made a reply from which the following excerpts are quoted:

* * * * *

"1. A hospital, even in the provinces bordering Manila, is a necessity because (a) the indigent patients have no means of coming to Manila; (b) the free ambulance service of the Manila hospitals do not extend beyond the city limits, generally speaking; (c) the Manila hospitals are often crowded and have not infrequently refused admission to patients even from the city; (d) considering that under normal times a city ought to have five beds (excluding those intended for dangerous communicable diseases) for every 1,000 inhabitants, Manila, with a population of 300,000 should have 1,500 beds, whereas it has at present hardly 1,000 hospital beds. The hospitals in the provinces are mainly intended for the poor. Without them, the indigent sick persons can hardly hope to avail themselves of the blessings of hospital service as they perhaps cannot even afford to pay the cost of transportation from their town to Manila.

"2. That the Tarlac Provincial Hospital has proved its usefulness to the community, may be seen from the fact that from its opening last January to date (December 11, 1924) 602 patients have been admitted (the majority of which were indigent), and all the surgical cases so far have been successful.

"3. Even if some of the patients who needed operation had been well-to-do, they could hardly have had any time in coming to Manila, as a number of cases entered the hospital in a state of collapse, and only timely and skillful intervention saved the day for them. Furthermore, in the case of the Tarlac Provincial Hospital, many prominent and even well-to-do persons from Tarlac and neighboring provinces have been treated, successfully so far, in the hospital.

"4. This Office believes that the success of the provincial hospitals will mainly depend upon the kind of personnel running them. A patient, even if well-to-do, will prefer to be treated in his home or in a neighboring town, circumstances being equal, because: (a) he will be more accessible to his parents, friends, and relatives; (b) the question of time, specially in surgical interventions, is often a decisive factor in the happy or fatal termination of a case; (c) transportation of the patient from one place to another often tends to aggravate the disease; (d) the expense and trouble are less. Conscious of these facts, the Philippine Health Service is doing its utmost to give the necessary inducements to well-trained and experienced surgeons, physicians, and nurses, with a view to selecting the best available."

* * * * *

What has been said about the Tarlac Provincial Hospital applies with equal force to the Tayabas and the Laguna Provincial Hospitals; but as these hospitals are as yet in their infancy and inasmuch as in the life of an institution years are as days in the life of an individual, we prefer not to make no further predictions.

One of the most spectacular accomplishments of medicine is the successful and rapid treatment of yaws. A few days after the first or second injection of salvarsan (the neosalvarsan is generally used), the loathsome eruptions dry or disappear altogether or to a great extent. There is hardly any sanitary measure which has been more acceptable to the people than the campaign against yaws. Against all traditions, the non-Christians have sought the Christian physician for the treatment of this malady. In the winning of the

Mohammedan, the campaign against yaws scarcely has a peer. It is believed that there are still about 30,000 cases of yaws in the Philippines remaining untreated. The number of yaws cases treated from 1920 to 1923 was around 10,000, the number treated during 1924 was 20,000. The average number of injections to effect a cure was three, and the average cost of each case treated was ₱1.50. If the campaign can be carried out with the same or increased vigor as in 1924, it is to be hoped that within one or two years, yaws shall have entirely disappeared to become merely a historical reminiscence.

ADVANTAGES OF A HOSPITAL

Just why, then, do we so unreservedly recommend hospital care and treatment, for the sick?

The hospital makes a business of caring for the sick. Homes are relieved from care, expense, confusion, and worry.

The patient has quiet, privacy, and convenience in the hospital.

Isolation is possible, in cases requiring such treatment.

In hospitals it is easier to enforce treatment.

Equipment is at hand, better than is possible in any home.

Doctors and nurses are always at hand, in readiness for emergencies.

The patient is under expert observation at all times.

Protection from annoyances are assured.

Proper diets and habits, are available and looked after for the patients.

Hospital care is in the long run more economical.

Hospital folks really THINK for the patient.

For women, relief from the home cares and worries.

For children, treatment is more easily carried out among strangers.

There is comfort in a hospital in the confidence in care received.

Cheer, teaching, and interest in others, are important factors.

Not all have access to hospitals. But I beseech you who have, to have, and foster, FAITH in them, in their methods, rules and regulations, management. Accept the hospital when it comes into your community, as there is no greater institution, and an uplift to any community, a Health Light-House.—REBECCA M. PARISH.—*The Woman's Outlook*, November, 1924.

FOUR-FOLD COMMUNITY RESPONSIBILITY OF THE HOSPITAL

1. To care for the sick—medical function.
2. To help train public health personnel—physicians, nurses, social workers, that is, teaching function.
3. To help educate the community in public health and personal hygiene—social function.
4. To throw light on the problems of medicine, public health, and personal hygiene—research function.—*Modern Hospital*, Feb. 1925.

SERVICE NEWS

DIRECTOR OF HEALTH AND STAFF ARRIVED

On May 3, 1925, Director Fajardo and members of the Service staff, amongst whom may be mentioned Doctor Hernando, Mr. Mañosa, and Doctor Padua, arrived at Manila from Laoag. They attended the Northern Luzon Health Officers' Assembly which was held at Laoag, Ilocos Norte, from April 27 to May 2, 1925.

The Director of Health presided the convention and gave the opening address. The provincial governor of Ilocos Norte, Honorable Hernando, delivered the address of welcome to the delegates, and Vice-Governor Gilmore made some remarks on the organization and administration of the health service.

The scientific sessions were held in the mornings, and business matters and practical administrative questions were taken up in the afternoons. About ten scientific papers were read and many important resolutions passed. The convention was a success in that it did not only strengthen the spirit of friendship, coöperation, and loyalty but it also served to remind the health officers of the fundamental principles of sanitary science and sanitary administration with which they should be always familiar.

It is contemplated, to give all the health officers in the Islands equal opportunity and benefit of the training, to hold a general convention at Baguio next year if circumstances will permit. It will be an intensive instruction for one month on essentially the same basis as that given in other states of the United States. Fifteen days are to be devoted for one-half of all the health officers from the provinces and fifteen days for the other half.

CAMPAIGN FOR LEPROSY WORK

His Excellency, the Governor-General, is evidently making great strides in his plans to improve conditions in the Culion Leper Colony. He has recently launched a campaign to raise \$1,000,000 in the United States for the purpose. Such voluntary contributions will, as Governor Wood stated, be of great assistance to us and should deserve the warmest appreciation on our part.

ADDITIONAL DISTRICT INSPECTORS

Effective March, 1925, Senior Medical Inspector Felipe Arenas, chief of license section of the Division of Metropolitan Sanitation and Senior Medical Inspector Manuel Ma. Aycardo, attached to the Division of Provincial Sanitation, were designated, in addition to their usual duties, district inspectors without change of compensation.

DOCTOR OROSA BACK FROM INSPECTION

Dr. Sixto Y. Orosa, chief, Division of Hospitals, Dispensaries, and Laboratories, who has been inspecting the Mountain Province, is now back, he having reported at the Central Office on May 5, 1925.

DOCTOR CHIYUTO GONE BACK TO CEBU

Dr. Sulpicio Chiyuto, district health officer of Cebu, who attended the last Northern Luzon Health Officers' Assembly at Laoag, Ilocos Norte, on April 27 to May 2, 1925, was directed to return to his former post at Cebu on May 6, 1925.

DIRECTOR OF HEALTH AND PARTY ON INSPECTION

On May 6th, Director Fajardo accompanied by Doctor Milan of the Rockefeller Foundation, Doctor Aguilar, supervising surgeon, Zamboanga General Hospital, and Doctor Manalang, division bacteriologist, inspected the Antipolo system of sewage disposal and the sanitary conditions in general of the town of Antipolo, Rizal.

On May 7th, the same party went for inspection to Lucena and Sariaya of the Province of Tayabas, and San Pablo and Santa Cruz of the Province of Laguna. In Lucena and Santa Cruz, inspection was made particularly of the hospital administration. On their way from San Pablo to Santa Cruz, Laguna, the Director of Health inspected the open sewers of the municipalities of Nagcarlan and Lilio of the same province.

They arrived at Manila on the night of May 7th.

DIRECTOR OF HEALTH LEAVING FOR INSPECTION

On May 11th, Director Fajardo left for Tarlac and Pangasinan for inspection of sanitary works and conditions therein. In Tarlac and Pangasinan, he inspected the provincial hospitals.

INSPECTION OF CHIEF, OFFICE OF PUBLIC HEALTH NURSING

On April 17, 21, and 24, 1925, the offices of the district nurses of La Union, Ilocos Sur, and Ilocos Norte, respectively, were inspected by the chief, Office of Public Health Nursing of this Service. The slight irregularities found therein were corrected and adequate instructions regarding the keeping of complete records given.

MAIN EVENTS THAT OCCURRED IN THE NORTHERN LUZON HEALTH OFFICERS' ASSEMBLY

The Northern Luzon Health Officers' Assembly was held, as was previously published in the local papers, in the municipality of Laoag, Ilocos Norte. The delegates consisted of district health officers and some presidents of sanitary divisions from the Provinces of Abra, Cagayan, Ilocos Norte, Ilocos Sur, Isabela, La Union, Mountain Province, Nueva Vizcaya, and Pangasinan, and three health officers from Mindanao and Sulu and the Visayan Islands. Five health officers from the Central Office, headed by the Director of Health, attended the convention. Altogether, about 47 health officers were present.

The program was arranged in such a way that conferences on scientific and administrative matters were given in the morning and business sessions and practical demonstrations in the afternoon.

The convention began at 9 a. m. on April 27, 1925, in the provincial capitol. The delegates were warmly welcomed by the provincial governor of Ilocos Norte. In the course of his brief but impressive address, he pleaded for the urgent establishment of a provincial hospital in the district. The Director of Health delivered the opening address and ex-

plained why the Province of Ilocos Norte was chosen as the place for the convention. He stated that the province is one, if not the cleanest, among the northern provinces of Luzon, but at the same time he pointed out that a clean province is not necessary a sanitary one, altho a sanitary province must necessarily be clean. However, he emphasized the fact that from cleanliness to sanitation, the distance is so short that a clean province can easily become sanitary.

The closing remark was given by His Excellency, the Vice-Governor-General who emphasized, among other things, the mission of the Health Service as more of the prevention of diseases and promotion of public health than the cure of human ailments. He stated that altho provincial hospitals are important adjuncts in carrying out health work, yet they should not eclipse or serve to minimize the objective of the Health Service. He said that "health officers" are not merely "medical officers."

He stated that it should have been better if the Department of Public Instruction were denominated as that of Health and Public Instruction. He said that, under that Department, there are three bureaus, viz.: the Philippine Health Service, Bureau of Education, and Bureau of Quarantine Service. The Philippine Health Service has as important a work as the Bureau of Education and in order to do justice to it, the Department should have been named to include health as well as education. He expects that in the future a more coördinated work will be carried on between those two bureaus, since hygiene and sanitation is now preached in public schools.

The music was furnished by the High-School Band.

In the afternoon of April 27th, a visit was made to the offices of the provincial capitol, municipal building, office of the president of Sanitary Division and public dispensary, the proposed public toilet, the public market, and municipal cemetery. The rest of the time was spent in sight-seeing around the town.

At night, a lecture with lantern slides on water supply and its protection from pollution was given by Dr. E. Hernando, chief of the Metropolitan Sanitation Division, and on sewage disposal by Mr. M. Mañosa, chief of the Division of Sanitary Engineering, P. H. S.

The morning of April 28th was spent in the reading of scientific papers, namely, (1) Some causes that obstruct sanitary administration in the municipalities, by Dr. J. Peralta, president of one of the sanitary divisions in Pangasinan; (2) Isolation of hookworm larvæ from soil as an aid in sanitary work, by Dr. C. Manalang, division bacteriologist; and (3) The need for an accurate morbidity and mortality statistics, by Dr. R. G. Padua. Discussions followed the reading of each of these papers.

In the afternoon of the same date, following the advice of Vice-Governor Gilmore based on suggestions made in the last-mentioned article, a business session exclusively on vital statistics was held. Provincial Form No. 70, which is the monthly statistical report of the district health officers and presidents of sanitary divisions as well as Provincial Forms Nos. 186 and 75 were reviewed and discussed with a view to recommending to the Director of Health such changes as were considered necessary.

The latter part of the afternoon was spent in the reception and tea party given in honor of the Vice-Governor and the delegates by the Women's Club.

At night, a dance was held in the auditorium of the provincial capitol in honor of His Excellency, the Vice-Governor-General, the Director of Health and his staff, and the delegates for the Northern Luzon Health Officers' Convention under the auspices of the provincial and municipal health officers, nurses, and other health personnel of Ilocos Norte.

On April 29th, the scientific session was resumed. Dr. S. Chiyuto, the district health officer of Cebu, gave a conference on the value of sanitary contests in rural and municipal districts; Dr. J. E. Avila, president of one of the sanitary divisions in Cagayan, on a plea for a campaign for public-health education in the Philippines. Upon request of Miss Jamias, the Director of Health conceded a permission for her to give a talk on the work the Red Cross has done and is doing in the provinces.

In the afternoon after the business session and sight-seeing, a reception and ball was given at Dingras, one of the neighboring towns, under the auspices of the municipal authorities and other entities therein, and in the evening another social affair was given in the auditorium of the provincial capitol under the auspices of the Laoagueño Fraternity.

On May 1st, other papers were read at the provincial capitol, namely, Some Orientations for a New Reorganization of the Health Service, by Dr. F. A. Tolentino, district health officer of Ilocos Norte, and closing remarks by Dr. G. Intengan, chief of the Provincial Sanitation Division. The afternoon was spent in inspecting neighboring towns and other health activities.

On May 2nd, the convention ended. A farewell dance was given at night in honor of the delegates under the auspices of the insular, provincial, and municipal employees in Laoag.

The assembly was a success in that it refreshed the minds of the delegates with their health work, it reminded them of the basic principles of practical public-health administration, it strengthened the spirit of loyalty and fraternity, and it brought forth to light ways by which some of the administrative difficulties may be solved. Important resolutions were passed in the afternoon business meetings. The Director of Health, with the implied approval of the Secretary of Public Instruction, announced at the convention that the Service is contemplating to hold next year a general assembly of all health officers in the Islands at Baguio, Benguet, for one month—half of them to be called up for fifteen days and the other half for the rest of the time.

DOCTOR BANTUG ON INSPECTION

Dr. Jose P. Bantug, executive officer and district inspector of this Service, left on March 26, 1925, for inspection and arrived at Manila yesterday, May 12, 1925. He inspected the Provinces of Camarines Norte, Camarines Sur, Albay, and Sorsogon. He found that these provinces are, in general, in good sanitary condition. He states that, in Albay and Sorsogon, the campaign against hookworm is being continued. In Catanduanes, which is believed to be the last stronghold of yaws, an intensive campaign is being conducted with a view to eradicate the disease.

DIRECTOR OF HEALTH ON INSPECTION

Director Fajardo and party left Manila on the early morning of Tuesday, May 12, for an inspection trip to the provinces of Pampanga, Tarlac, and Pangasinan arriving at the city on the evening of May 13.

Among other things, he inspected the provincial hospitals in those provinces. In the hospitals of San Fernando and Tarlac, he noticed that laparotomy was being practiced which signifies that surgery is extending in the provinces. He observed that the public is beginning to appreciate the value of surgery as well as that of internal medicine. He is very much enthusiastic over the success obtained by both the Tarlac and Pampanga provincial hospitals which are faithfully serving the public.

The provincial hospital at Dagupan, Pangasinan, is now about to be finished. The only things lacking are the light and water supply. When these are installed, the hospital will be immediately inaugurated.

The health conditions in the provinces he visited are, on the whole, satisfactory. Rural sanitation is improving, with the exception of the municipality of Bamban, Tarlac, which is the same as before as far as sanitation is concerned.

DOCTOR LOPEZ RIZAL OUT FOR INVESTIGATION

Doctor Lopez Rizal, chief of the Division of Communicable Diseases of this Service, left on the early morning of Wednesday, May the 13th, for the Subprovinces of Ifugao and Kiangnan in company with Doctor Shellard of the Bureau of Science. They were out for about three weeks to make an investigation on the nature and prevalence of yaws in those subprovinces.

Dr. Regino G. Padua has been assigned to act in the place of Doctor Lopez Rizal during the latter's absence.

DOCTORS AGUILAR AND MANALANG BACK TO THEIR POSTS

Dr. Eusebio D. Aguilar, district health officer of Zamboanga and supervising surgeon of the Zamboanga General Hospital, and Dr. Cristobal Manalang, the division bacteriologist, left yesterday, May 15, 1925, to return to their posts. They have attended the Northern Luzon Health Officers' Assembly at Laoag, Ilocos Norte, from April 27 to May 2, 1925. They also accompanied the Director of Health in the inspection of the different Insular and provincial hospitals that are now in operation, including that of the City of Baguio.

DISTRIBUTION OF ASSORTED VACCINES AND SERA DURING THE MONTH OF APRIL, 1925

The chief, office of property of this Service, reports that during the month of April there were distributed 600,000 units of antidiphtheric serum; 152,000 units of antitetanic serum; 55 ampules of antidysenteric serum; 100 ampules of normal horse serum; 20 ampules of gonococcus vaccine; 6 ampules of streptococcus vaccine; 18,600 c.c. of cholera vaccine; 78,360 c.c. of mixed cholera-typhoid vaccine; 20,040 c.c. of typhoid vaccine; 203,550 units of fresh vaccine virus; and 93,950 units of dried vaccine virus, costing a total of ₱26,201.90.

DOCTOR ARENAS ON INSPECTION TRIP

Dr. Felipe Arenas, chief of the license section, Division of Metropolitan Sanitation, and district inspector of this Service, left on May 18, 1925, for an inspection of the towns on the Pacific Coast as regards the sanitary condition and the health administration existing therein.

DOCTOR ARVISU IN MANILA

Dr. T. C. Arvisu, chief of the Baguio Hospital, arrived at Manila on May 20, 1925, to take special training in the diseases of the eye, ear, nose, and throat in the clinics of Doctors Sevilla, Ubaldo, and Velarde. He is expected to go back to his post on May 30, 1925.

RETIREMENT OF TWO MORE HEALTH OFFICERS

On the morning of May 22, 1925, the Pension and Retirement Board of the Philippine Health Service held a meeting to consider several applications for retirement. As a result, the applications of Senior Surgeon Buenaventura Toribio and of Assistant Surgeon Valeriano Pantoja were approved by said Board. Doctor Toribio is the district health officer of Malaybalay, Bukidnon, and Doctor Pantoja has been retaining his old appointment as municipal physician in Tondo Health District. Their papers will be forwarded to the proper authorities for final action.

DOCTOR INTENGAN BACK FROM INSPECTION

After the Northern Luzon Health Officers' Assembly in Laoag, Ilocos Norte, Dr. Gabriel Intengan, chief of the Division of Provincial Sanitation, upon orders of the Director of Health, started for Apayao on the afternoon of May 2, 1925, arriving thereat on the morning of May 11, 1925.

He inspected almost all the municipalities in that subprovince and found out that the sanitary condition in general was fair. The housing condition was found even better than that of any other Igorot tribe. The drinking water, however, was not up to the sanitary standard and sanitary means of sewage disposal was found in limited places in the subprovince. As a rule, the people wore dirty clothings—soap being unknown to them.

There were few cases of malaria. Apparently, the most prevalent infection in the locality is intestinal parasite. Doctor Intengan found many of the inhabitants with big abdomens althou undernourished. What struck his attention the most was this latter condition—the undernourishment as well as the underdevelopment and anemic conditions of the people all over the subprovince especially in the municipalities of Ripang, Talifugo, and Kabugao. There is apparently a shortage of food in this region of the Islands. About 70 per cent of the school children were absent at the time of inspection as these had to go to the mountains and forest to hunt for food. The inhabitants eat mostly tubers and other edible roots. As a consequence, they are not ingesting the right amount to maintain the physiological balance—hence the poor and undernourished condition of the people at large.

He left Apayao on May 13, 1925, and arrived at Manila on May 21, 1925.

OTHER HEALTH OFFICERS IN THE MEDICAL RESERVE CORPS

Three other medical health officers among those that have been commissioned last year in the U. S. Medical Reserve Corps are now taking the usual yearly training of fifteen (15) days in Fort Wm. McKinley. These are: First Lieutenant Juan S. Fernando, First Lieutenant Antonio Fernandez, and First Lieutenant Dalmacio A. Jugueta. These officers together with 3 others—one from the University of the Philippines and the rest from private institutions—began the intensive training on May 15, 1925,

which ended on May 29, 1925. These six medical officers of the U. S. Medical Reserve Corps constitute the second set to take up the intensive training, the first set having had theirs last December, 1924. They took courses in Military Hygiene, Military Organization and Administration, Military Tactics, and such other instructions as would be necessary for the care and treatment of wounded soldiers in the battlefield.

CHIEF OF CULION LEPER COLONY REPORTS

The chief, Culion Leper Colony, reports, among other things, that on March 22, 1925, the Guitna playground was officially inaugurated. The lepers and nonlepers were enthusiastic and attended the inauguration indoor baseball.

On March 29, 1925, the commencement exercises of the Culion Training School for Nursing aids were held in the Colony theatre. Nine aids were graduated and received their diplomas amidst the cheer and loud applause from the big crowd of lepers and nonlepers that filled the theatre to its capacity. Valuable prizes were awarded to those who obtained high ratings in their examination.

DOCTOR AYCARDO ACTING DISTRICT HEALTH OFFICER, BONTOC, MOUNTAIN PROVINCE

On May 23, 1925, District Inspector Manuel Ma. Aycardo was relieved from his present assignment in the Central Office and directed to proceed, at the first opportunity, to Bontoc, Mountain Province, having been assigned therein as acting district health officer of the said province during the absence of Medical Inspector Enrique F. Ochoa who is the regular incumbent.

Upon arrival of Doctor Aycardo thereat, Assistant Surgeon Hilary P. Clapp was relieved as acting district health officer of the Province and resumed his duties as resident physician of the Bontoc Hospital.

MISINFORMATION ON TYPHOID

Contrary to what has been published in some local papers that the typhoid incidence is not decreasing, the Central Office issued a counter-statement to the effect that the figures, if analyzed carefully, show that it is.

Daily reports should not be entirely depended upon to judge the situation. The typhoid situation is not as alarming as it seemed from a superficial study of the cases.

The attention of the press was invited to the effect that, out of the 10 reported cases, 4 were suspects.

ASSISTANT SANITARY INSPECTOR FERNANDEZ DEAD

Assistant Sanitary Inspector Pablo Fernandez of Health District No. 1, Meisic, died at 11 p. m. on May 17, 1925, at the San Lazaro Hospital. The interment took place at 3 p. m. on May 31, 1925, under the auspices of the Labi ng Katipunan.

All the sanitary inspectors who were not on duty on that day were required to report to Assistant Surgeon Rafael J. Perez of Health District No. 1, Meisic, at the time specified for the purpose of attending the funeral.

DOCTOR VINTERES IN HEALTH DISTRICT NO. 1, MEISIC

Effective May 21, 1925, Dr. Numeriano Vinteres was directed to take charge of Health District No. 1, Meisic, temporarily, until the return of Senior Medical Inspector Roberto de Leon who is on vacation leave of absence.

MISCELLANEOUS

NEW ASSIGNMENTS

Dr. Jose Z. Rosales was appointed president of the Third Sanitary Division of Batangas; Dr. Alfredo S. Paredes, acting president of the Second Sanitary Division of Samar; and Dr. Florencio Arreola, president of the Fourth Sanitary Division of Ilocos Norte. These presidents of sanitary divisions were directed to proceed to their stations to report for duty to the district health officers in those provinces.

Surgeon Vicente de la Serna was relieved from further duty as assistant district health officer of Cebu and designated district health officer of Misamis relieving Doctor Penabella.

Surgeon Domingo Penabella, upon being relieved as district health officer of Misamis, was directed to proceed to Malaybalay, Bukidnon, to relieve Senior Surgeon Buenaventura Toribio, a retired health officer.

Dr. Leopoldo Fuentes, assistant district health officer of Leyte, was designated district health officer of Surigao relieving Dr. Jose Victoriano who would then resume his usual duties as president of sanitary division.

PROMOTIONS

The following promotions were made: 4 medical officers with the rank of senior surgeon were promoted to the rank of medical inspector, 9 officers with the rank of surgeon were promoted to senior surgeon, and 11 officers who were not in the Commissioned Service were qualified and promoted to the rank of surgeon. These were the following:

<i>From Senior Surgeon to Medical Inspector</i>	<i>Effective date</i>
Severina Luna Orosa, of Batangas.....	June 16, 1925
Pedro A. Rodriguez, of Rizal.....	June 16, 1925
Marcelino A. Asuzano, of Manila.....	June 16, 1925
Pedro Joven, of Manila.....	June 16, 1925

<i>From Surgeon to Senior Surgeon</i>	
Domingo R. Tablan, of Bulacan.....	June 16, 1925
Ismael Villarica, of Bulacan.....	June 16, 1925
Toribio Joson, of Nueva Ecija.....	June 16, 1925
Francisco Gomez, of Rizal.....	June 16, 1925
Domingo B. Penabella, of Manila.....	June 16, 1925
Bienvenido P. Caro, of Camarines Sur.....	June 16, 1925
Rosario Pastor, of Batangas.....	June 16, 1925
Andres D. Baltazar, of Manila.....	July 1, 1925
Esteban A. Fabie, of Pangasinan.....	July 1, 1925

<i>Qualified and Promoted to Surgeon</i>	
Concepcion B. Pañganiban, of Iloilo.....	June 16, 1925
Leopoldo Fuentes, of Capiz.....	June 16, 1925
Jose de Leon, of Ilocos Sur.....	June 16, 1925

<i>Qualified and Promoted to Surgeon</i>	<i>Effective date</i>
Donato San Juan, of Tayabas.....	June 16, 1925
Faustino Estella, of Zambales.....	June 16, 1925
Catalina Policarpio, of Rizal.....	July 1, 1925
Antonio Ejercito, of Laguna.....	July 1, 1925
Trinidad L. Yusay, of Iloilo.....	July 1, 1925
Florencio Firme, of Zambales.....	July 1, 1925
Salvador Martinez, of Iloilo.....	July 1, 1925
Pio Lauengco, of Manila.....	July 1, 1925

TRIPS TO THE PROVINCES

Dr. Felipe Arenas, chief of the license section of the Metropolitan Sanitation Division and district inspector of this Service, inspected some of the municipalities on the Pacific Coast of the Islands such as Infanta, Mauban, Casiguran, Baler, Polillo, Lukban, Tayabas, and Lucena of the Province of Tayabas.

The sanitary condition of these towns was found, in general, satisfactory. There were only a few cases of varicella in Casiguran and dysentery in Lukban.

The water supply, however, was not, from a sanitary standpoint, satisfactory in the municipalities of Infanta, Casiguran, and Baler. To remedy this situation, an agreement was made with the provincial governor so that a water tank for rain water would be constructed for public use.

The Antipolo system of sewage disposal was found in all municipalities visited. In the town of Lucena, flush closets were found in most of the houses. Sewer system was under way of construction.

On another occasion, he inspected the Province of Camarines Sur. He reported that there were only 3 cases in Lagonoy, Camarines Sur, which were clinically positive for cholera but which were not confirmed bacteriologically. No other subsequent cases developed.

To prevent the spread of the infection, vaccination not only of contacts but also of all the inhabitants of Lagonoy was enforced, in addition to other adequate sanitary measures, such as disinfection, cleaning of premises, isolation of the cases, etc. This anticholera vaccination was extended to all parts of the Province of Camarines Sur, but especially in those municipalities and ports which were in direct communication with the town of Lagonoy.

Dr. Pacifico Laygo, district inspector, inspected Nueva Ecija.

Dr. Pedro Joven, medical officer in charge of Systematic Antismallpox Vaccination went to Batangas for inspection.

Dr. Sixto Y. Orosa, chief of the Division of Hospitals, Dispensaries, and Laboratories, attended the inauguration of the Provincial Hospital at Bayombong, Nueva Vizcaya, in representation of the Director of Health.

RESULT OF INSPECTION OF CIGAR AND CIGARETTE FACTORIES

The Chief of the Office of General Inspection reported that during the period from April 1 to May 31, 1925, inclusive, there were investigated 65 cigar and cigarette factories in the City of Manila and the neighboring provinces. Of these 65 factories, 44 or 67.7 per cent were located in the city.

The sanitation of these factories was scored or graded on the scale of 100 and the results were the following:

Rating in per cent	Number of factories		
	Total	Manila	Neighboring provinces
Under 70 per cent	0	0	0
70 to under 80 per cent	1	0	1
80 to under 90 per cent	50	30	20
90 per cent and over	14	14	0

All the 14 factories rated 90 per cent and over were located in Manila; and of the 50 factories marked 80 to under 90 per cent, 30 or 65 per cent were also in the city. In other words, the cigar and cigarette factories located in the provinces received relatively lower rating, as far as sanitation is concerned, than those in the City of Manila. Such being the case, the Service recommended that no application to open a factory in the nearby provinces will be approved if water closets of the flush system and washing facilities cannot be installed.

Regular inspections have been made, but oftener to those that needed closer supervision as evidenced by their failure to keep up to the required standard of sanitation.

REPORT OF MEDICAL EXAMINATION OF SCHOOL CHILDREN IN THE CITY

The physical examination of school children who were to enter the city schools commenced on May 18, 1925. Up to June 6, 1925, there were examined 10,223 pupils who were to enter the schools north of the Pasig River and 3,397 pupils to enter the schools south of the Pasig River.

During that period of time, there were 1,274 treatments given to defective children north of the Pasig River and 1,362 to those south of the Pasig River.

SANITARY ENGINEER REPORTS

The sanitary engineer reported that there were 420 sanitary orders pending on April 30; that during the month of May there were issued a total of 64 sanitary orders, out of which 44 were complied with; cancelled orders were 4; and pending orders at the end of the month were 436.

MONTHLY REPORT OF THE OFFICE OF PROPERTY

The chief, office of property, reported that, during the month of May, there were distributed to the different provinces of the Islands the following assorted vaccines and sera:

Antidiphtheric serum.....	units.....	620,000
Antitetanic serum.....	units.....	30,000
Antidyserteric serum.....	ampules.....	104
Gonococcus vaccine.....	ampules.....	50
Cholera vaccine.....	c. c.....	6,900
Mixed cholera-typhoid vaccine.....	c. c.....	66,120
Typhoid vaccine.....	c. c.....	7,920
Vaccine virus fresh.....	units.....	199,450
Dried vaccine virus.....	units.....	95,400
Total cost.....		₱21,119.50

CHOLERA SUSPECTS IN THE CITY OF MANILA

During the last 72 hours ending 8 a. m., June 17, 1925, there were admitted to the San Lazaro Hospital 8 suspected cases of cholera without death. Until then, these cases were bacteriologically negative. However, the Health Service felt it a duty to warn and notify the inhabitants so that if diarrhea or dysentery would develop in the household or in the neighborhood, they should be reported at once to the nearest health station, or to any physician in the vicinity, or to the San Lazaro Hospital. This was necessary in order to prevent the outbreak of a threatening cholera epidemic in the city. They should come to the Central Office or to the nearest health station for prophylactic vaccination against the disease.

The following advices were given:

"We should all know that the cholera germ gains entrance into our system only thru the mouth. The disease cholera does not develop unless its germ is ingested into our stomach.

"We should all know that the taking in of undigestible or decomposed food may start serious troubles in our alimentary system followed by diarrheic symptoms, abdominal cramps, cold and profused perspiration, and perhaps subsequent collapse—symptoms simulating those of a true cholera. These cases may be taken as cholera suspects which, on bacteriological examination, may be found negative for the cholera organism. But if an individual, attacked with this so-called "food-poisoning," happens to be a cholera carrier, he will develop the disease cholera in him. For the information of the public, a cholera carrier is an apparently healthy person who harbors cholera germs in his intestine without manifesting the disease in him, unless his vitality is weakened or unless he develops intestinal troubles.

"To avoid diarrhea, indigestion, and all those symptoms and factors that may lead to the development of the disease cholera, it is obvious that we should avoid eating undigestible and decomposed foods. We should see that the sardines, canned shrimps, and other canned food that we buy from the grocery, market, and Chinese store are in good condition. Any evidence of decomposition in them or in any other food sold in the market will produce the above mentioned alarming symptoms. We should cook thoroughly our food and let us not eat any fish or meat that are raw. We should keep our hands clean all the time because an infection in them may be transmitted unconsciously into our mouth. We should, therefore, wash our hands with soap and water before we handle our food, during its preparation, and when we are about to eat our meals, and above all after using the toilet. The cholera germ may lodge under our nails and if the latter are dirty, we may be liable to get the disease.

"The Health Service requests the coöperation of the inhabitants of the City of Manila, by observing such simple rules of hygiene as above indicated so that cholera will not develop in our midsts and the advent of an epidemic prevented.

CHOLERA SITUATION BETTER

During the last 5 days ending 8 a. m., June 30, 1925, it has been observed that the cholera situation in the city as well as in the provinces was getting better—there being no new cases nor deaths reported during that period of time.

TYPHOID SITUATION IN THE CITY OF MANILA

The figures, as put in the daily statistical report of this Service, have been misinterpreted as some of the typhoid cases were suspects and the final diagnoses of the rest were not yet determined. This state of affairs, however, should not be taken to mean that the inhabitants would lay aside the taking of antityphoid vaccinations. The people were advised to come to the Central Office to take these injections three times, at an interval of one week, in order to be protected from the disease for a period of at least two years.

A NEW CURE FOR LEPROSY

A great advance in the treatment of leprosy was reported from South Africa. In the treatment of sleeping sickness with a new compound under the name of "tryparsamide," it was found that those patients who had sleeping sickness and leprosy at the same time have recovered from both diseases. Through the interest and courtesy of the former Director of Health, Dr. Victor G. Heiser, a sufficient amount of the drug for the treatment of several cases has been forwarded to the Health Service. The new drug will be given a thorough trial by those who are in charge of the treatment of the disease, and should it prove a success, no pain will be spared for the purchase of this new drug for the treatment of the afflicted.

COMMITTEE ON INDUSTRIAL SURVEY

The Committee on Industrial Survey has been created for the purpose of making a thorough study of the industries and professional diseases and accidents in the City of Manila as well as in the provinces. Said committee is composed of Dr. Rafael Villafranca as the Chairman, Dr. Jose P. Bantug, Dr. Regino G. Padua, Mr. Manuel Mañosa, and Mr. Francisco Juliano as Members.

The detail of Mr. Juliano has been made with the consent of the Director of the Bureau of Labor.

REPORT OF DOCTOR RIVERA SAYO

Dr. Vicente Rivera Sayo, who is now studying in the Johns Hopkins University, Baltimore, Maryland, reported that during the months of March and April, he was taking courses on Bacteriology 2, Helminthology, Field Demonstration in Public Health Organization, Sanitary Law, and Entomology.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of June, 1925)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR, 1925¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Mejisic.....	124,252
No. 2, Sampaloc.....	109,840
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	59,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,820
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS JUNE, 1925**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8:00 a. m. mean	2:00 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	757.34	26.8	32.3	4	22.8	2	30.0	30.1
11-20.....	57.76	27.2	34.4	16	23.5	15	29.6	29.8
21-30.....	57.06	26.3	33.0	26	22.7	23,25	29.3	29.4

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	85.3	90.2	8	79.8	3
11-20.....	83.5	90.0	11	78.7	17
21-30.....	86.0	90.2	25	82.9	26

Date	Wind				Atmidometer (*) (open air)		
	Prevailing direction	Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	SW	3,735.0	717.0	7	22.3	4.0	3
11-20.....	SW	1,355.0	202.0	11	26.4	4.0	15
21-30.....	SE quad	1,950.0	611.0	24	19.4	4.0	26

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	26 20	5 50	2	359.2	9
11-20.....	41 35	8 15	13, 16	17.9	5
21-30.....	23 10	6 25	30	229.5	9

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instrument mounted in the observatory park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

[Stillbirths not included]

BY NATIONALITY

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	3	4	7	27.19
Filipinos.....	595	553	1,148	48.89
Spaniards.....	5	1	6	37.36
Other Europeans.....	2	3	5	54.06
Chinese.....	28	25	53	36.17
All others.....	7	4	11	61.26
Total and average.....	640	590	1,230	47.97

BIRTHS BY DISTRICTS

Districts	Legitimates			Illegitimates			Grand total	Annual birth rates per 1,000
	Male	Female	Total	Male	Female	Total		
No. I, MEISIC:								
1. Tondo.....	166	168	334	11	7	18	352	54.48
2. San Nicolas.....	48	34	82	3	.....	3	85	36.42
3. Binondo.....	19	23	42	.....	1	1	43	30.49
Total.....	233	225	458	14	8	22	480	47.08
No. II, SAMPALOC:								
4. Santa Cruz.....	68	74	142	3	9	12	154	36.84
5. Qulapo.....	38	16	49	.....	1	1	50	39.39
6. San Miguel.....	11	4	15	1	.....	1	16	45.09
7. Sampaloc.....	106	81	187	8	8	16	203	63.91
Total.....	218	175	393	12	18	30	423	47.10
No. III, PACO:								
8. Port Area.....	1	.....	1	.....	.....	.....	1	2.59
9. Intramuros.....	30	21	51	3	1	4	55	46.99
10. Ermita.....	22	33	55	2	1	3	58	44.91
11. Malate.....	54	54	108	.....	4	4	112	84.97
12. Paco.....	32	26	58	2	.....	2	60	46.76
13. Pandacan.....	8	8	16	1	.....	1	17	36.25
14. Santa Ana.....	7	16	23	1	.....	1	24	44.93
Total.....	154	158	312	9	6	15	327	50.69
Grand total.....	605	558	1,163	35	32	67	1,230	47.97

Attended by physicians, living, 334; stillbirths, 27.

Attended by midwife, living, 140; stillbirths, 0.

Attended by family, living, 756; stillbirths, 11.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	2	.....	2	7.77
Filipinos.....	251	257	508	21.63
Spaniards.....	1	1	2	12.45
Other Europeans.....	1	.....	1	10.81
Chinese.....	12	1	13	8.86
All Others.....	4	.....	4	22.28
Total and average.....	271	259	530	20.67

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married.....	80	78
Divorced.....	.....	.....
Widowed.....	19	48
Single.....	229	173
Conditions not stated.....	3	.....
Total.....	331	299
Grand total.....	630	

Stillbirths.....	38
Number of deaths with medical attendance.....	399
Number of deaths without medical attendance.....	231

DEATHS BY DISTRICTS AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Districts	Deaths	Annual death rates per 1,000
No. I, MESEIC:		
1. Tondo.....	171	26.47
2. San Nicolas	39	16.71
3. Binondo.....	17	12.05
Total.....	227	22.24
No. II, SAMPALOC:		
4. Santa Cruz	64	15.31
5. Quiapo.....	19	14.97
6. San Miguel.....	10	28.18
7. Sampaloc.....	86	27.07
Total.....	179	19.93
No. III, PACO:		
8. Port Area.....	1	2.59
9. Intramuros.....	20	17.09
10. Ermita.....	7	5.42
11. Malate.....	53	40.21
12. Paco.....	20	15.59
13. Pandacan.....	13	27.72
14. Santa Ana.....	10	18.72
Total.....	124	19.22
Grand total.....	530	20.67

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	98	80	15	9	202
1 year plus.....	29	29	4		53
2 years plus.....	8	12			20
3 years plus.....	7	6			13
4 years plus.....	2	3			5
5 to 9 years.....	6	7	4	2	19
10 to 14 years.....	5	5		2	12
15 to 19 years.....	13	9	8	2	32
20 to 24 years.....	15	10	5	4	34
25 to 29 years.....	17	12	1	5	35
30 to 34 years.....	11	8	4	2	25
35 to 39 years.....	11	15	4	2	32
40 to 44 years.....	6	9	3	3	21
45 to 49 years.....	7	2	2	1	12
50 to 54 years.....	9	9	1	1	20
55 to 59 years.....	3	2	4	2	11
60 to 64 years.....	7	9	1	3	20
65 to 69 years.....	4	2	2		8
70 to 74 years.....	7	8	1	1	17
75 to 79 years.....	4	3			7
80 to 84 years.....	3	8			11
85 to 89 years.....	2	4		1	7
90 to 94 years.....	2	3			5
95 to 99 years.....	2	1			3
100 years and over.....	1	3	1		5
Age not stated.....	1				1
Total.....	271	259	63	40	630

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH,
AND MUNICIPAL DISTRICTS—Continued

Health districts																
Age groups	No. 3, Paco															
	No. 8 Port Area		No. 9 Intramuros		No. 10 Ermita		No. 11 Malate		No. 12 Paco		No. 13 Pandacan		No. 14 Santa Ana		Total	Grand total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
Under 1 year.....																
1 year plus.....																49
2 years plus.....																20
3 years plus.....																12
4 years plus.....																6
5 years plus.....																13
6 to 9 years.....																7
10 to 14 years.....																18
15 to 19 years.....																10
20 to 24 years.....																22
25 to 29 years.....																9
30 to 34 years.....																13
35 to 39 years.....																5
40 to 44 years.....																10
45 to 49 years.....																22
50 to 54 years.....																17
55 to 59 years.....																12
60 to 64 years.....																29
65 to 69 years.....																19
70 to 74 years.....																11
75 to 79 years.....																18
80 to 84 years.....																9
85 to 89 years.....																2
90 to 94 years.....																3
95 to 99 years.....																1
100 years and over.....																4
Age not stated.....																1
Total.....	1		8	12	6	1	23	30	12	8	6	7	6	4	271	259
Grand total.....	1		20	7	53	20	13	10	530							

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

[illegible]

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
43-69	<i>II. General diseases not included in class I—Continued</i>													
60	Diseases of the thyroid gland:													
69	b. Other diseases of the thyroid gland			1			1							1
	Other general diseases.....													1
70-86	<i>III. Diseases of the nervous system and of the organs of special sense</i>													
71	Meningitis:													
	a. Simple meningitis.....						2							2
74	b. Nonepidemic cerebrospinal meningitis.....						1							1
	Cerebral hemorrhage, apoplexy:													
	a. Cerebral hemorrhage.....													
75	b. Cerebral embolism and thrombosis.....			5	3					1		1		9
	Paralysis without specified cause:													1
	a. Hemiplegia.....													1
77	Other forms of mental alienation.....			3										3
78	Epilepsy.....			1										1
82	Neuralgia and neuritis.....			2										2
83	Softening of the brain.....				1									1
87-96	<i>IV. Diseases of the circulatory system</i>													
88	Endocarditis and myocarditis (acute).....			1						1				2
90	Other diseases of the heart.....			4	8					2				14
97-107	<i>V. Diseases of the respiratory system</i>													
99	Bronchitis:													
	a. Acute.....			14	6									20
	b. Chronic.....			6	3									9
100	Broncho-pneumonia:													
	a. Broncho-pneumonia.....			22	30									52
	b. Capillary bronchitis.....			2	1									3
101	Pneumonia:													
	a. Lobar.....			4	3									7
102	Pleurisy.....			1	2									3
103	Congestion and hemorrhagic infarct of the lung.....										1			1

VI. Diseases of the digestive system

[illegible]

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Cause of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
164	Senility.....			7	15									22
164														
165-203	XIV. External causes Suicide by hanging or strangulation..... Accidental drowning..... Accidental traumatism by other crushing (vehicles, railways, landlides, etc.); g. Landlides, other crushing..... Other accidental electric shocks.....							1				2		1
182														2
188														
196				1										1
204-205	XV. Ill-defined diseases Cause of death not specified or ill-defined: b. Not specified or unknown.....			1										1
205										1				
	Total.....	2	251	257	1	1	1	1	1	12	1	4		530
	Grand total.....	2	508	2	1	13	4							530

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

(Stillbirths not included)

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
5	a. Typhoid fever.....			3	4									7
16	Malaria:									1				5
	a. Malarial fever.....													
	Dysentery:													
	a. Amebic.....			1										1
	b. Bacillary.....													
23	Lethargic encephalitis.....													1
24	Meningococcus meningitis.....			1										1
27	Anthrax.....			1										1
29	Tetanus.....													1
	b. Others.....													
31	Tuberculosis of the respiratory system.....			3	1									4
32	Tuberculosis of the meninges and central nervous system.....													1
33	Tuberculosis of the intestines and peritoneum.....			1										1
36	Tuberculosis of other organs:													
	a. Tuberculosis of the skin and subcutaneous cellular tissue.....													1
41	Purulent infection, septicemia.....			1										1
43-69	<i>II. General diseases not included in class I</i>													
44	Cancer and other malignant tumors of the stomach, liver.....													1
52	Chronic rheumatism, osteoarthritis, gout.....													1
55	Beriberi:													
	a. Infants.....			3	1									4
70-86	<i>III. Diseases of the nervous system and of the organs of special sense</i>													
71	Meningitis:													
	a. Simple meningitis.....			1										1
74	Cerebral hemorrhage, apoplexy:													
	a. Cerebral hemorrhage.....									1				1
75	Paralysis without specified cause:													
	a. Hemiplegia.....													1

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough.....					3	3
11. Influenza:						
b. Without pulmonary compli- cations specified.....					1	1
21. Erysipelas.....					1	1
29. Tetanus:						
a. Umbilical.....				4	2	6
32. Tuberculosis of the meninges and cen- tral nervous system.....					1	1
55. Beriberi:						
a. Infants.....				5	30	35
56. Rickets.....					3	3
69. Other general diseases.....				1		1
71. Meningitis:						
a. Simple meningitis.....					1	1
99. Bronchitis:						
a. Acute.....					16	16
b. Chronic.....					4	4
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....					23	23
b. Capillary bronchitis.....					5	5
101. Pneumonia:						
a. Lobar.....		1				1
103. Congestion and hemorrhagic infarct of the lung.....	1					1
112. Other diseases of the stomach (can- cer excepted).....					1	1
113. Diarrhea and enteritis.....				2	40	42
118. Hernia, intestinal obstruction:						
b. Intestinal obstruction.....					1	1
128. Acute nephritis.....					4	4
154. Other diseases of the skin and annexa. 159. Congenital malformations (stillbirths not included):					1	1
b. Congenital malformations of the heart.....				2		2
160. Congenital debility, icterus and scle- rema.....	11	3	2	12	9	37
161. Premature birth; Injury at birth:						
a. Premature birth (not still- born).....	8	1		2		11
162. Other diseases peculiar to early in- fancy.....				1		1
Total.....	20	5	2	29	146	202

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	21,170
Number of rats caught by spring traps.....	2,685
Number of cage wire traps set.....	720
Number of rats caught by cage wire traps.....	7
Number and kind of baits (coconuts).....	21,590
Number of poison portions placed.....	15,120
Number of rats found poisoned.....	345
Number of rats killed by clubs and other weapons.....	833
Number of rats found dead from other causes.....	522
Total number of rats otherwise caught, found dead or killed.....	4,392
Total number of rats sent to the Laboratory for examination.....	4,392
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JUNE, 1925, CITY OF MANILA

CONFIRMED CASES

339

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	6	2	3				1	1	6	2	4	1	10	3
{No. 1.....	5	1	2						5	1	2		7	1
{No. 2.....	2	1							3	2			3	2
{No. 3.....	6	1	1		1	1			6	1	2		8	1
{No. 4.....	1						1						1	
{No. 5.....	3								2				2	
{No. 6.....	2	1	2	1					3	1	2	1	5	2
{No. 7.....	1		1						1		1		2	
{No. 8.....	1		1						1		1		2	
{No. 9.....	1		1						1		1		2	
{No. 10.....	1		1		1	1			2		1		3	
{No. 11.....	1		1						1				1	
{No. 12.....	1	1	1	1					1	1	1	1	1	1
{No. 13.....														
{No. 14.....	14	3	10	4					14	3	10	4	24	7
Transients.....														
Total.....	43	10	21	6	2	1	2	1	45	11	23	7	68	18

REMARKS:

Total cases reported within the month in the City of Manila.....	82
Resident cases.....	57
Non-resident cases.....	25
Foreign cases.....	0
Total deaths reported within the month in the City of Manila.....	18
Deaths among resident cases.....	11
Deaths among non-resident cases.....	7
Deaths among foreign cases.....	0
Total cases confirmed as typhoid fever.....	66
By autopsy.....	0
By blood culture.....	0
By widal reaction.....	6
By urine examination.....	0
By feces examination.....	0
By clinical symptoms.....	60
Cases confirmed as paratyphoid fever.....	2
Total cases not confirmed.....	14

Typhoid Carrier—None

DYSENTERIES REPORTED DURING THE MONTH OF JUNE, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....							2			2		2	2
	No. 2.....													
	No. 3.....													
	No. 4.....	1	2	1			1				2	1	3	1
II.....	No. 5.....													
	No. 6.....													
	No. 7.....	1	1		1	1			2	2			2	2
	No. 8.....													
	No. 9.....													
	No. 10.....													
III.....	No. 11.....													
	No. 12.....													
	No. 13.....													
	No. 14.....	2	1	1	1				2	1	1	1	3	2
Transients.....														
Total.....	4	2	3	2	1	1	2	2	5	3	5	4	10	7

REMARKS:

Total cases reported within the month in the City of Manila.....	15
Resident cases.....	10
Non-resident cases.....	5
Total deaths reported within the month in the City of Manila.....	7
Deaths among resident cases.....	5
Deaths among non-resident cases.....	2
Total cases not confirmed as dysentery.....	5

Dysentery Carrier—None

CHOLERA REPORTED DURING THE MONTH OF JUNE, 1925, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1	1							1		1		2	
	No. 2	1							1				1	
	No. 3													
	No. 4	1							1				3	
II.	No. 5		2								2			
	No. 6													
	No. 7	1							1				1	
	No. 8													
	No. 9													
	No. 10													
III.	No. 11													
	No. 12													
	No. 13													
	No. 14													
	Transients	1							1				1	
	Total	5							5		3		8	

REMARKS:

Total cases reported within the month in the City of Manila	15
Resident cases	13
Non-resident cases	2
Foreign cases	0
Resident cases not confirmed as cholera	6
Non-resident cases not confirmed as cholera	1
Total deaths reported within the month in the City of Manila	0
Deaths among resident cases confirmed as cholera	0
Deaths among non-resident cases confirmed as cholera	0

Cholera Carriers—31

DIPHTHERIA REPORTED DURING THE MONTH OF JUNE, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.....	No. 1.....																			
	No. 2.....																			
	No. 3.....																			
	No. 4.....																			
	No. 5.....																			
II.....	No. 6.....																			
	No. 7.....	2		1	1								2			1	1		3	1
	No. 8.....																			
	No. 9.....			1												1			1	
	No. 10.....			1												1			1	
III.....	No. 11.....																			
	No. 12.....																			
	No. 13.....																			
	No. 14.....																			
Transients.																				
Total	2			3		1							2			3			5	1

REMARKS:

Total cases reported within the month in the City of Manila

Resident cases

Non-resident cases

Resident cases not confirmed as diphtheria

Non-resident cases not confirmed as diphtheria

Total deaths reported within the month in the City of Manila

Deaths among resident cases confirmed as diphtheria

Deaths among non-resident cases not confirmed as diphtheria

Deaths among non-resident cases confirmed as diphtheria

Diphtheria Carriers—3

12

12

0

7

0

1

1

0

0

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF JUNE, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	18	9	4	2
Varicella.....	8	2		
Varioloid.....				
Smallpox.....				
Measles.....	1	3		
Whooping cough.....	1	2	1	2
Influenza.....	17	6	4	4
Bubonic plague.....				
Encephalitis lethargic.....	1			
Meningitis cerebrospinal epidemic.....		1		1
Pulmonary tuberculosis.....	96	83	48	59
Tuberculosis of all forms.....	4	3	4	3
Beriberi, infantile.....	13	18	13	18
Beriberi, adult.....				

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	6	3	4	1
Varicella.....	3			
Varioloid.....				
Smallpox.....				
Measles.....				
Whooping cough.....				
Influenza.....	1			
Bubonic plague.....		1		
Encephalitis lethargic.....				1
Meningitis cerebrospinal epidemic.....	1		1	
Pulmonary tuberculosis.....	16	11	3	5
Tuberculosis of all forms.....	1	1	1	2
Beriberi, infantile.....	3	1	3	1
Beriberi, adult.....				

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE
MONTH OF JUNE, 1925**

Sera and vaccines	On hand June 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	170,000	1,000,000	1,170,000	270,000	900,000
Anti-dysenteric serum (ampoules).....	70	100	170	82	88
Anti-tetanic serum (units).....		1,070,000	1,070,000	70,000	1,000,000
Cholera vaccine (c.c.).....	37,690		37,690	37,260	430
Cholera serum (ampoules).....		14	14	14	
Dried vaccine virus (units).....	42,600	87,500	130,100	88,700	41,400
Fresh vaccine virus (units).....	60,200	200,000	260,200	222,900	37,300
Gonococcus vaccine (ampoules).....		100	100	100	
Mixed cholera-typhoid vaccine (c.c.).....	16,210	93,520	109,730	91,820	17,910
Normal horse serum (ampoules).....		2	2	2	
Streptococcus vaccine (ampoules).....					
Typhoid vaccine (c.c.).....	17,940		17,940	11,400	6,540

No. 2	Santa Cruz	257	628	124	486	6	284	186	106	137	71	112	54	443	734	261	557	118	338
	Quipo	256	348	206	128	174	233	88	179	179	21	21	60	386	520	206	147	174	288
	San Miguel		185	185	129		237	82	399	20	34	6			584	48	189	25	97
	Samploc.	71	439	28	232	19	11		91					153	510		266		12
	Port Area		26		14				2						28		14		
	Intramuros		225		176		109		21		81		59		246		287		163
	Ermita	55	470	26	506	30	176	30	81	18	33	16	40	85	551	44	538	46	216
	Malate	49	143	8	186		146	14	19		4			63	162	8	189		146
	Paco	135	466	23	251	3	24	99	127	21	38	12	15	234	593	44	289	15	39
	Pandacan.	74	282	8	128		33	23	59	16	14			97	341	19	142		33
	Santa Ana		575		446	2	311	1	154		1	4		1	729		445	3	315
Total		2,053	5,382	686	3,538	371	1,589	791	1,582	394	540	241	271	2,844	6,914	1,080	4,078	612	1,860

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V, in persons never vaccinated before; R, revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Total vaccina- tions	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	2,558	845	581	1,132
Agusan.....	898	461	74	363
Albay.....	16,408	4,553	4,732	7,123
Bataan.....	7,188	1,881	2,850	2,457
Batanes.....	333	132	19	182
Batangas.....	15,617	5,019	2,867	7,731
Bohol.....	87,092	18,586	46,443	22,063
Bulacan.....	92,924	17,881	68,598	6,450
Cagayan.....	16,522	4,093	5,068	7,341
Camarines Norte.....	2,668	815	704	1,149
Camarines Sur.....	71,536	9,129	48,453	13,954
Capiz.....	36,901	11,322	20,914	4,665
Catanduanes.....	5,036	1,395	826	2,815
Cavite.....	19,045	3,154	10,574	5,317
Cebu.....	41,919	12,721	10,425	18,773
Cotabato.....	5,655	1,677	1,504	2,474
Cullion Leper Colony.....	328	27	220	81
Ilocos Norte.....	3,454	1,191	844	1,419
Ilocos Sur.....	47,487	7,967	26,710	12,810
Iloilo.....	19,277	10,822	2,074	6,381
Isabela.....	6,597	1,814	2,719	2,064
Laguna.....	14,087	4,834	3,579	5,624
Lanao.....	3,949	1,266	1,680	1,053
La Union.....	54,582	4,900	40,747	8,885
Leyte.....	32,501	12,998	4,714	14,789
Marinduque.....	4,066	1,040	1,392	1,634
Masbate.....	4,083	1,351	1,044	1,688
Misamis.....	34,878	11,124	17,556	6,198
Mountain Province.....	2,279	526	1,032	721
Nueva Ecija.....	10,719	4,772	2,288	3,659
Nueva Vizcaya.....	4,130	529	1,869	1,732
Occidental Negros.....	11,894	5,958	1,975	3,461
Oriental Negros.....	10,577	2,881	3,439	4,257
Palawan.....	18,847	4,760	9,139	4,948
Pampanga.....	18,139	3,281	4,049	5,809
Pangasinan.....	30,433	12,145	2,365	15,923
Risal.....	15,617	3,897	8,700	3,020
Samar.....	75,424	12,408	40,139	22,877
Sulu.....	13,345	5,781	3,730	3,834
Surigao.....	17,229	5,165	4,779	7,285
Tarlac.....	9,192	2,873	4,687	2,132
Tayabas.....	9,757	3,644	2,274	3,839
Zambales.....	1,881	385	960	536
Zamboanga.....	5,477	2,007	1,435	2,035
Total.....	896,929	223,510	420,736	252,683

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra	248	144	615	559	326	483	1,189	1,186
Agusan	184	87	74	47	56	13	314	147
Albay	1,451	586	1,468	642	3,144	2,133	6,063	3,861
Bataan	1,123	191	1,847	1,042	1,691	1,012	4,661	2,245
Batanes	55	15	116	50	67	24	238	89
Batangas	2,154	357	3,422	1,013	3,405	2,741	8,981	4,111
Bohol	2,785	530	10,906	2,177	30,053	22,115	43,744	24,822
Bulacan	5,059	437	10,093	1,875	25,897	20,607	41,047	22,919
Camagan	1,622	308	3,432	800	5,742	2,978	10,796	4,084
Camarines Norte	463	137	609	182	689	270	1,761	589
Camarines Sur	2,058	276	6,095	1,168	26,531	11,439	34,684	12,883
Capiz	2,082	295	4,574	751	12,563	3,071	19,219	4,117
Catanduanes	634	297	764	315	488	385	1,886	997
Cavite	1,830	426	3,320	898	7,793	4,593	12,943	5,917
Cebu	3,591	1,767	5,371	1,892	5,793	6,012	14,755	9,671
Cotabato	146	120	466	361	1,191	1,347	1,803	1,828
Culion Leper Colony	19	6	8	3	173	119	200	128
Ilocos Norte	423	61	890	162	829	659	2,142	832
Ilocos Sur	3,744	955	9,043	2,943	18,582	8,909	31,369	12,907
Iloilo	3,324	319	4,969	889	3,579	1,694	11,872	2,902
Isabela	208	100	840	387	1,958	1,552	3,006	2,089
Laguna	2,002	673	2,402	1,052	2,797	3,984	7,201	5,689
Lanao	575	73	584	177	673	275	1,832	525
La Union	1,872	247	5,561	2,403	16,982	18,753	24,415	16,403
Leyte	3,043	985	4,327	1,672	7,638	4,121	15,008	6,778
Marinduque	418	126	577	189	1,062	572	2,057	887
Masbate	298	150	528	227	626	576	1,452	953
Misamis	1,021	474	3,740	1,123	9,503	3,537	14,264	5,134
Mountain Province	97	4	300	100	491	418	838	622
Nueva Ecija	1,934	446	2,898	897	1,781	1,373	6,613	2,716
Nueva Vizcaya	294	23	628	308	1,661	1,106	2,583	1,437
Occidental Negros	2,230	521	2,101	683	1,929	708	6,280	1,907
Oriental Negros	1,241	427	1,892	791	2,657	1,445	5,790	2,663
Palawan	316	28	1,454	144	5,814	4,249	7,584	4,421
Pampanga	1,330	302	1,238	426	2,810	2,340	5,378	3,068
Pangasinan	5,830	1,419	7,386	2,338	5,145	4,292	18,861	8,049
Rizal	2,097	364	2,152	856	3,168	4,291	7,417	5,511
Samar	1,862	583	7,106	2,762	23,957	10,667	32,925	14,012
Sulu	583	269	2,368	928	3,985	1,730	6,936	2,927
Surigao	618	208	1,938	498	4,707	2,126	7,263	2,832
Tarlac	1,145	266	1,531	713	1,916	2,563	4,592	3,542
Tayabas	1,129	815	1,834	591	2,990	1,539	5,953	2,445
Zambales	105	95	248	181	366	684	719	960
Zamboanga	407	345	525	498	846	1,080	1,778	1,928
Total	63,648	15,755	122,240	37,713	254,054	159,560	439,942	213,028

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925 ¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan.....						
Albay.....	1,288	675	245	199		
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	15	11				
Bobol.....						
Bukidnon.....						
Bulacan.....	467	365				
Cagayan.....						
Camarines Sur.....						
Capiz.....						
Catanduanes.....	2	65	2	88		
Cebu.....	568	666	10	18		
Cotabato.....						
Davao.....						
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....						
Isabela.....						
Laguna.....						
La Union.....						
Leyte.....						
Marinduque.....						
Masbate.....						
Mindoro.....						
Mountain Province.....						
Nueva Ecija.....						
Nueva Viscaya.....						
Occidental Negros.....						
Oriental Negros.....						
Pampanga.....						
Pangasinan.....	76	84	32	33		
Risal.....						
Samar.....						
Sulu.....						
Surigao.....						
Tarlac.....						
Tayabas.....						
Zambales.....						
Total.....	2,411	1,866	289	338		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925** 1—Continued

Provinces	Number of injections made in females						Total number in- jected		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Agusan									
Albay	1,205	721	319	253			3,884	1,016	
Antique									
Bataan									
Batanes									
Batangas	26	4					56		
Bohol									
Bukidnon									
Bulacan	436	367					1,635		
Camagayan									
Camarinas Sur									
Capiz									
Catanduanes	1	56	1	68			124	159	
Cebu	400	653	8	21			2,287	57	
Cotabato									
Davao									
Ilocos Norte									
Ilocos Sur									
Iloilo									
Isabela									
Laguna									
La Union									
Leyte									
Marinduque									
Masbate									
Mindoro									
Mountain Province									
Nueva Ecija									
Nueva Vizcaya									
Occidental Negros									
Oriental Negros									
Pampanga									
Pangasinan	61	109	21	51			330	137	
Rizal									
Samar									
Sulu									
Surigao									
Tarlac									
Tayabas									
Zambales									
Total	2,129	1,910	349	393			8,316	1,369	

A. means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan.....						
Albay.....						
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	430	80	239	101	19	1
Bohol.....						
Bukidnon.....						
Bulacan.....	364	144	339	136	270	96
Cagayan.....						
Camarines Sur.....						
Capiz.....						
Catanduanes.....						
Cebu.....	64	72	1	1		
Cotabato.....						
Davao.....						
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....	44	30	12	6	10	6
Isabela.....						
Laguna.....	15	17	4	9	7	4
La Union.....						
Leyte.....	12	37	9	6		
Marinduque.....						
Masbate.....						
Mindoro.....						
Mountain Province.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Pampanga.....						
Pangasinan.....	363	292	215	161	124	122
Rizal.....						
Samar.....						
Sulu.....						
Surigao.....						
Tarlac.....	65	1	54	1	26	1
Tayabas.....						
Zambales.....						
Total.....	1,357	673	873	421	456	230

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number injected		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Agusan.....									
Albay.....									
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	330	111	185	115	5	1	984	640	26
Bohol.....									
Bukidnon.....									
Bulacan.....	393	162	371	150	301	99	1,063	996	766
Cagayan.....									
Camaringes Sur.....									
Capiz.....									
Catanduanes.....									
Cebu.....	90	54					280	2	
Cotabato.....									
Davao.....									
Iloilo Norte.....									
Iloilo Sur.....									
Iloilo.....	72	16	34	2	42	2	162	51	60
Isabela.....									
Laguna.....	16	8	2	8	4	9	56	23	24
La Union.....									
Leyte.....	41	28	25	16			118	56	
Marinduque.....									
Masbate.....									
Mindoro.....									
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Pampanga.....									
Pangasinan.....	368	304	245	152	212	97	1,327	773	555
Rizal.....									
Samar.....									
Sulu.....									
Surigao.....									
Tarlac.....	3	3	3	3	2	3	72	61	32
Tayabas.....									
Zambales.....									
Total.....	1,313	719	865	446	566	211	4,062	2,605	1,463

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925 ¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan.....						
Albay.....	10	5	17			
Antique.....	279	600	95	184		
Bataan.....	661	209	229	76		
Batanes.....						
Batangas.....	63	24	33	18		
Bohol.....	181	41	116	41		
Bukidnon.....						
Bulacan.....	666	313	549	261		
Cagayan.....	240	122	61	67		
Camarines Sur.....	826	312	671	230		
Capiz.....	171	98	94	42		
Catanduanes.....						
Cebu.....	2,374	1,691	675	367		
Cotabato.....	153	7	8			
Davao.....	30		2			
Ilocos Norte.....						
Ilocos Sur.....	717	328	541	242		
Iloilo.....	83	78	62	45		
Isabela.....						
Laguna.....	1,146	596	522	415		
La Union.....	418	209	155	272		
Leyte.....	335	152	331	98		
Marinduque.....	529	614	332	308		
Masbate.....	140	313	67			
Mindoro.....						
Mountain Province.....	244	196				
Nueva Ecija.....	597	88	242	160		
Nueva Vizcaya.....	223	249	198	228		
Occidental Negros.....	1,028	317	714	345		
Oriental Negros.....	286	41	21	5		
Pampanga.....	5,343	4,430	3,910	3,712		
Pangasinan.....	1,376	1,302	1,047	985		
Rizal.....	3,089	624	919	246		
Samar.....	31	14	23	10		
Sulu.....	33	3	25	2		
Surigao.....						
Tarlac.....	162	90	93	52		
Tayabas.....	249	132	83	79		
Zambales.....	186	213	160	179		
Total.....	21,869	13,411	11,995	8,669		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**(CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number injected		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Agusan.									
Albay.	12	6	11				33	28	
Antique.	214	546	99	184			1,639	562	
Bataan.	431	140	163	50			1,441	518	
Batanes.									
Batangas.	71	22	62	14			180	127	
Bohol.	198	121	121	100			541	378	
Bukidnon.									
Bulacan.	692	301	548	238			1,972	1,596	
Cagayan.	103	115	30	62			580	220	
Camarines Sur.	524	206	404	161			1,868	1,466	
Capiz.	143	79	74	39			491	249	
Catanduanes.									
Cebu.	2,001	1,228	534	266			7,294	1,842	
Cotabato.	37	5	1				202	9	
Davao.	12						42	2	
Ilocos Norte.									
Ilocos Sur.	514	287	347	219			1,846	1,349	
Iloilo.	86	67	54	19			314	180	
Isabela.									
Laguna.	1,068	506	576	458			3,316	1,971	
La Union.	295	166	78	197			1,088	702	
Leyte.	527	130	455	79			1,144	963	
Marinduque.	421	562	197	299			2,126	1,186	
Masbate.	87	178	33				718	100	
Mindoro.									
Mountain Province.	129	197					766		
Nueva Ecija.	213	79	186	159			977	747	
Nueva Vizcaya.	90	262	66	247			824	739	
Occidental Negros.	615	471	425	456			2,431	1,940	
Oriental Negros.	150	38	16	7			515	49	
Pampanga.	5,867	3,653	4,163	2,932			19,293	14,717	
Pangasinan.	1,583	1,323	1,338	1,023			5,684	4,393	
Rizal.	3,273	532	1,085	290			7,518	2,540	
Samar.	26	6	21	7			77	61	
Sulu.	14	4	12	2			54	41	
Surigao.									
Tarlac.	76	84	53	51			412	249	
Tayabas.	159	17	35	8			557	205	
Zambales.	130	219	118	199			748	656	
Total.	19,761	11,550	11,305	7,766			66,591	39,785	

A. means persons of 15 and over 15 years of age; C, below 15 years of age.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE
MONTH OF JUNE, 1925**

Province and town	Case	Death
Ilanog:		
Arantao.	1	0
Total.	1	0

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF JUNE, 1925**

Provinces and towns	Cases	Deaths
Camarines Sur:		
Lagonoy.	2	1
Rizal:		
Pateros.	1	0
Bulacan:		
Polo.	1	1
Albay:		
Tabaco.	1	1
Total.	5	3

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF JUNE, 1925**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampa- loc	No. 3 Paco	
Orders pending June 1, 1925:				
Minor.....	114	72	69	255
Sewer.....	27	57	15	99
Vacating.....	11	14	16	41
Filling.....	10	24	7	41
Total.....	162	167	107	436
Orders issued during the month:				
Minor.....	21	16	17	54
Sewer.....	1	2	1	4
Vacating.....				
Filling.....				
Total.....	22	18	18	58
Orders completed during the month:				
Minor.....	10	11	8	29
Sewer.....		1		1
Vacating.....	2		5	7
Filling.....				
Total.....	12	12	13	37
Orders cancelled during the month:				
Minor.....				
Sewer.....	1	1	9	11
Vacating.....				
Filling.....				
Total.....	1	1	9	11
Orders pending, June 30, 1925:				
Minor.....	125	77	78	280
Sewer.....	27	57	7	91
Vacating.....	9	14	11	34
Filling.....	10	24	7	41
Total.....	171	172	103	446
Strong material plans approved:				
New buildings including additions and alterations.....	23	42	20	85
Permits for minor building constructions:				
Approved.....	36	63	30	129
Disapproved.....	10	10	5	25
New buildings completed.....	11	25	17	53
Permits for light and mixed material constructions:				
Approved.....	165	156	75	396
Disapproved.....	27	9	11	47
Prosecutions:				
Convictions.....				
Dismissals.....		1	5	6
Amount of fines.....				
Plumbing permits issued.....	58	88	69	215
Plumbing projects completed.....	58	67	46	171
Premises connected to the sanitary sewer to May 31, 1925.....	2,422	4,103	477	7,002
Connected during the month.....	3	9	9	21
Total.....	2,425	4,112	486	7,023

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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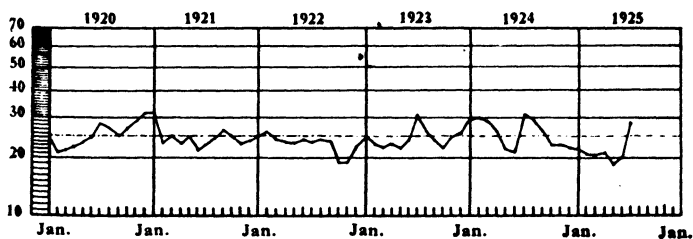
No. 7

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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JULY, 1925

No. 7

**MATERNITY AND CHILD HYGIENE WORK IN THE
PHILIPPINE ISLANDS**

By JOSE FABELLA, M.D.

Public Welfare Commissioner

Puericulture Centers.—These institutions were organized and managed in accordance with the provisions of Department of the Interior Order No. 10, series of 1921, and were given Insular aid with an amount equal to that secured by them from membership dues, voluntary contributions, benefit performances, etc. The primary aim of these centers is the reduction of infant mortality by instructing mothers in the care of their children and by maintaining mothers' and children's clinics commonly known as "centers." To carry out this aim, the centers employ physicians, nurses, and sometimes trained midwives and dentists.

In the centers, the health and development of the children, especially of those less than two years of age, were verified and treatment was given whenever necessary. Mothers were given instructions supplemented by actual demonstrations on the care of their children. Expectant mothers were given advice on the care of themselves before and after confinement. The unlicensed midwives were assembled regularly and were given lectures on the conduct of normal labor and the care of the mother and the newborn. The families were visited in their homes by the nurses in order that the latter might have closer contact with the former and they have an opportunity to give the mothers and children better individual attention. Some puericulture center organizations conduct maternity hospitals in connection with their regular center work.

The following table shows a comparison of the number of puericulture centers, registration and attendance, home visits

and lectures to unlicensed midwives, number and capacity of maternity-houses, in 1922 and 1923:

	1923	1922	Increase
1. No. of puericulture centers established by December 31, 1923.	263	183	80
2. No. of puericulture centers in operation by December 31, 1923.	163	116	47
3. Registration—total.	99,049	51,789	47,260
(a) Mothers.	21,644	9,302	12,342
(b) Children.	77,405	42,487	34,918
4. Attendance—total.	367,489	146,757	220,732
(a) Mothers.	56,909	17,989	38,920
(b) Children.	294,367	128,768	165,599
(c) Others.	16,213		16,213
5. Home visits made by nurses.	413,671	84,949	328,722
6. Lectures given to unlicensed midwives.	1,336	523	813
7. Number of maternity—houses maintained.	7	6	1
8. Capacity of maternity—houses.	103	86	17

During the year 1923, 1,169 mothers and 1,186 children were taken care of in the Maternity-Houses.

The personnel that took charge of the technical work of the puericulture centers and maternity-houses in the provinces totaled 302, consisting of 61 private physicians, 42 medical health officers, three Philippine Constabulary surgeons, two private dentists, 177 puericulture center nurses, and 17 licensed midwives. In addition to these workers, there were 12 physicians, two dentists, and 55 nurses, of the Office of the Public Welfare Commissioner, working in the training centers and maternity-houses and doing supervision work. The number of public health nurses employed by the Philippine Health Service and of the nurses of the American Red Cross, Philippines Chapter, who also undertake to some extent work on maternity and child hygiene as well as the amount of work accomplished by them, are not included in the foregoing figures.

Schools of midwifery.—Two schools of midwifery, one in Cebu, Cebu, and another in Manila, were open during the year. The school in Cebu has already graduated 34 midwives and the one in Manila 27, all of whom are now working with puericulture centers. With the ever-increasing number of trained midwives, it is expected that at least more instruction and supervision can be given the unlicensed ones, inasmuch as the time has not come yet to supplant them altogether.

Distribution of tiki-tiki extract.—As a means for combating infantile beri-beri, the Office of the Public Welfare Commissioner distributed tiki-tiki extract through the puericulture centers, woman's clubs, and such social service organizations as the American Red Cross and the *Gota de Leche*. During the year 1923, the Office of the Public Welfare Commissioner distributed

42,900^a bottles of tiki-tiki extract. Of the 53,625 bottles of extract manufactured by the Bureau of Science, 13,925 were delivered to the Philippine Health Service, 800 to the Philippine General Hospital, and 38,900 to the Office of the Public Welfare Commissioner.

Regional conferences.—Regional conferences were held in Cebu, Cebu, Bacolod, Occidental Negros; and Dumaguete, Oriental Negros, during 1923. These conferences gave impetus to the establishment of puericulture centers in the provinces and facilitated the standardization of their equipment and methods. The delegates discussed among themselves their difficulties, especially in the acquisition of funds, and sought ways for solving them. The reports of the delegates on the accomplishments of their respective organizations served as a stimulus to the members present in the conventions. One of the most important resolutions passed at the conference in Bacolod deals with the establishment of a school of midwifery in Bacolod to which puericulture center organizations or municipalities of Occidental Negros may send one or two student *pensionados*.

Coöperation with other health agencies.—The Director of Health and the Public Welfare Commissioner, seeing the necessity of defining the functions and duties of each office in carrying out the work on maternity and child hygiene and of determining the manner of accomplishing such ends so as not to encroach upon the functions of each other and thus avoid duplication of work, issued circulars to this effect to their respective personnel. The Director of Health issued Circular V-72 of August 30, 1923, and the Public Welfare Commissioner issued Administrative Order No. 4, of August 30, 1923. At the health conference held in Bulacan and Zamboanga, the need for coördinating the health resources of the Islands was once more brought out in the discussion, resulting in a better understanding among the Health Service, the American Red Cross, and the Office of the Public Welfare Commissioner.

^a Four thousand bottles of tiki-tiki extract were in stock on January 1, 1923.

THE NEED OF MALARIA PREVENTION AND CONTROL

By Dr. TEOFILO CORPUS

The public generally has no conception of the seriousness of malaria as a health problem in the Philippine Islands. Yet it is well established that whenever malaria prevails, almost in direct proportion to its prevalence, the population is generally subnormal physically, mentally, and economically. As it is estimated that an average of 32,260 deaths from malaria occur annually in this country, the influence of this disease on the health and welfare of the Filipinos demands a much wider recognition than is now given. Malaria, of all diseases, causes the heaviest toll of lives¹ at the present time in this country, as may be seen from the report of the Service for 1922 as follows:

Diseases	Deaths	Per cent from total death.
Malaria ¹	27,196	13.54
Tuberculosis of all forms.....	27,151	13.52
Dysentery.....	7,918	3.94
Typhoid fever.....	2,329	1.16
Leprosy.....	586	0.29
Hookworm.....	470	0.23

¹ Excluding Palawan for lack of report.

This disease is very much more prevalent in the barrios than in cities and towns. Among the endemic diseases of this country, malaria causes acute suffering; and the social and economic losses resulting from it far exceed those of all the other endemic diseases, which are chiefly tuberculosis, dysentery, typhoid fever, leprosy, and the hookworm diseases. This sickness is unquestionably also of enormous importance, but its eradication is less difficult than the complete elimination of malarial disease, on account of the wider dissemination and the more insidious nature of malaria and the complicated relationship between mosquito and man.

Lord Ross of England, an eminent authority on the subject, states that the malarial fever is perhaps the most important of

¹ A paper read before the First Mindanao Health Officers' Assembly, Zamboanga, December 17-22, 1923.

human diseases; and though it is not often directly fatal, yet its wide prevalence in almost all warm climates produces in the aggregate an enormous amount of sickness and death. It is, in fact, the causative factor, directly or indirectly, of much of ill-health afflicting the community.

It has been estimated that malaria produces one-half of the entire mortality of the human race; and inasmuch as it is the most frequent cause of sickness and death in those parts of the globe that are most densely populated, it may be taken as correct.

The deaths, from malaria in the United States within the Registration Area¹ from 1916–1920 are as follows:

Year	United States	
	Deaths	Rate per 10,000 population
1916.....	2,175	0.80
1917.....	2,387	0.82
1918.....	2,544	0.81
1919.....	3,275	0.88
1920.....	8,186	0.86

In India, the annual actual mortality is 1,130,000, or 50 to each 10,000 population. In the Philippine Islands, the malaria mortality is as follows: ²

Year	Luzon and Visayas		Mindanso and Sulu	
	Deaths	Rate to each 10,000 population	Deaths	Rate to each 10,000 population
1918.....	38,322	38.5	2,269	21.7
1919.....	37,726	37.3	3,099	29.0
1920.....	29,653	28.9	2,083	19.0
1921.....	28,407	27.1	1,723	14.8
1922.....	27,196	25.8	2,002	16.8

From these figures, it is evident that although there is a gradual decrease in the mortality rate from malaria annually, a rate which is lower than that of India, still this rate is very high as compared with that of the United States; hence, any attempt for a malaria campaign in this country is fully justified.

For the laborers, the disease means an immense loss of their time, labor, and money. If members of their families other than themselves be affected, it may also mean a loss of time

¹ *Mortality Statistics*, Department of Commerce, United States Bureau of the Census.

² Taken from the reports of the Philippine Health Service.

and money. For the employer, it means the loss of labor at a time, perhaps, when it will be of greatest value to his business. If it does not mean the actual loss of labor to the employer, it will mean a loss in the efficiency of his laborer. To the farmers, it may mean the loss of their crops for want of cultivation. It will mean the imperfect cultivation of thousands and thousands of acres of fertile land. It has been found that one-third of the working period of a laborer is lost because of malaria.

However, malaria prevention and control, to be permanently successful, requires the complete coördination of governmental corporate, and private functions and efforts to the same extent to which it was made possible in the case of the Panama Canal, where practically the whole population was brought under almost perfect sanitary condition. When malaria could be practically eradicated in such a region as the Panama Canal Zone, the same thing can be done practically anywhere else. As the late Surgeon-General Gorgas once said, "the lack of success in any community must mean that the *modus operandi* has been inadequate and imperfect, the fault generally being that details have been neglected or ridiculed as too trivial of attention."

A strict scientific mosquito survey is of the first importance in all local and anti-malarial measures, and without this survey such measures are practically certain to fail.

In strictly tropical countries, with a very heavy rainfall and a very high average range of temperature and humidity, the difficulties of prevention and control are very serious. Mosquito and malaria eradication efforts have occasionally failed, but the general principles of radical measures are now so thoroughly understood that there is no more reason for the endemic continuance of malaria in the Philippine Islands than for that of tuberculosis, dysentery, typhoid fever, leprosy, and the hookworm.

The malaria campaign and its success in the Panama Canal Zone should be our guide in the work here in the Philippine Islands, which began with 87 cases to each 10,000 persons in 1906, to go down gradually year by year so as to be reduced to 0.9 for every 10,000 in 1916, a figure which is practically nil.

Here in the Philippine Islands, the malaria campaign has been begun. With the coöperation of the Rockefeller Foundation, the Service has conducted malaria surveys in the Province of Laguna and in the Iwahig Penal Colony, and a similar survey is now conducted in the sugar-cane plantations of Pampanga and Bataan.

In the field survey in these plantations, house-to-house visits are conducted to determine the *modus vivendi* and the sanitary condition of the floor, windows, and roofs of the houses, the toilets, conditions of over-crowding, the kind of drinking water and foods taken, the neglect of the use of mosquito nets as the contributing factors in the spread of malaria, the determination of splenic and parasitic indices, the "healthy malaria-carriers," and the existence and collection of the different varieties of anophelene mosquitoes.

To give the public an idea of the results of the malaria investigation carried out in the sugar-cane plantations of Pampanga and Bataan, it may be stated in passing that of the total of 1,423 persons examined, 74 per cent are field workers; one-third do not have any history of malaria; one-half have had malaria at that place; one-tenth have had malaria at a former residence; and the rest have had malaria in both places. About 84 per cent do not use mosquito nets.

Enlarged spleens were found in 30 per cent of the persons examined. A total of 22 per cent were malaria-positive—*plasmodium vivax* and *plasmodium malaria* predominating. A total of 63, or 44 per cent, "healthy malaria-carriers" were found.

Within the four selected zones in the Province of Laguna, Doctor Padua of the Philippine Health Service found out that of the 2,267 persons examined, 62 per cent had an enlarged spleen, eight per cent were parasite-positive, and nine per cent were malaria carriers. In Iwahig, out of 1,228 persons examined, 48 per cent had an enlarged spleen, 13 per cent were parasite-positive, and 16 per cent were malaria carriers. Although these percentages differ in such places as Laguna, the Iwahig Penal Colony, Pampanga, and Bataan, because of varying conditions in each locality, still these figures show that malaria incidence is high in these surveyed places. This fact is also undoubtedly true in many other places of the Philippine Islands.

It was once believed that infection was higher in the sugar-cane plantations of Pampanga and Bataan; but because of the free distribution of quinine, it has remained low, since a single dose of quinine will often cause all the parasites to disappear from the peripheral blood. In blood-films from patients who have received several doses of quinine, one very probably may not be able to find parasites; but other evidences indicating the presence of the disease. In negative blood-findings where

symptoms point to cases of malaria, there is usually a decrease of polymorphonuclear leucocytes from 70 per cent to 50 per cent; an increase, of mononuclear leucocytes from 20 per cent to 40 per cent of even 50 per cent, and the presence of macrophages and infected leucocytes.

Now, as a caution in any malarious district, it has been our experience that a person complaining of a little "chill" or "occasional shivers" or as of being "out of sorts," of course, with a little fever, headache, weakness, dyspepsia, and an unusual sweating at night, in all probability is a case of malaria. Persons may complain of occasional vomiting, diarrhea, dysentery, or of rheumatic pains, and such may be true cases of malaria.

This particular survey suggests the importance of the malaria problem to all the elements of the community, rich as well as poor, and intelligent as well as ignorant; for malaria is not, like tuberculosis, a disease primarily of poverty and ignorance, but an affection which concerns every element and every age of the population, although naturally in varying degrees.

With regard to prophylaxis and sterilization with quinine, any method may do well. It must be remembered, however, that in every case of a suspected case of malaria, quinine should be given; and if the fever does not disappear or is not reduced within five days, it is not a case of malaria. In every diagnosed case of malaria, quinine should be given one-half hour before the chill, because quinine is assimilated at least one-half hour after its administration; and since it is excreted through the system within six hours after taking it, the best way is to give it in fractional doses—the full dose three times a day, if an effect is at all expected.

The intravenous injection of quinine and urea hydrochloride, preceded by subcutaneous or intramuscular injection of adrenalin, were found by Doctor Padua to give good results.

On the use of screens, Colonel Munson states that the usual open construction of houses in these Islands makes practically impossible their being mosquito proof. It would also be an expense to fortify them with mosquito screening, because it would be beyond the means of the average householder.

There is also considerable doubt on the practicability of even thorough anti-mosquito screen affording satisfactory protection. The reason is that mosquitoes find their way into such screened houses through the opening of the doors—and once behind such screens, it is impossible for them to get out. They are then held there during their term of life, an annoyance and a source

of danger to the occupants. Colonel Kennedy, Surgeon of the Philippine Department, Medical Corps, United States Army, states that army families living in screened houses have had repeated outbreaks of dengue; and it is fair to presume that these successive cases have come from what might be called "residual mosquitoes" which are infected and which are imprisoned in such houses.

With reference to the destruction of the residual adult mosquito in houses, the many measures so far known—as destroying mosquitoes by fumigation, mechanical destruction by hand-catching, the use of fly-swatters, catching mosquitoes on ceilings by putting cups of kerosene oil or turpentine under them, catching mosquitoes by traps, and destruction of mosquitoes by poisonous solutions—have their practical disadvantages; and it is for us to find out some attractive mosquito traps and attractive solution, poisonous to mosquitoes, which can be exposed freely about the houses in order to solve the practical control of mosquito-born diseases.

The sanitary engineering work will be based upon the attacks on propagation-areas by filling, by drainage, by larvacides with the least expense, by oiling, by natural enemies as *Gambusia affinis*, by clearing bodies of water, and by the removal of jungles. It is well to state here that the personnel of the Rockefeller Foundation working on malaria in Pampanga is using dynamite in removing some obstructions and straightening the channels of streams. The best larvacide for mosquitoes is the abolition and prevention of stagnant water collection. Thousands of mosquitoes may be produced from a saucer of water within three weeks; and neglect, therefore, in matters of small details may be followed by lamentable consequences. Hence the axiom: *No stagnant water.*

Towards the prevention and ultimate control of malaria, a campaign consisting of talks, lectures, distribution of pamphlets, and demonstrations will have to be launched. The educational method to be pursued will emphasize in plain language that "No mosquitoes, no malaria" and that "Quinine is the remedy."

Local anti-malarial ordinances must be passed and enforced. An ideal malaria ordinance is as follows: *That it shall be unlawful for any owner, tenant, or agent, in control of any lot or premises within the corporate limits, to permit to remain thereon any empty bottles, empty cans, or other receptacles likely to gather and hold water. And any such owner, tenant, or agent, failing to remove all such articles from his lot or*

premises within five days after notice from the office of the health officer to do so, shall be guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than ₱4 or more than ₱20 for each offense.

It would seem, therefore, that a uniform and intensive malaria campaign in all places of the Philippine Islands is very necessary, and a limited haphazard campaign here and there is not warranted. It would also seem urgently advisable that there should be introduced in the Philippine Legislature a bill providing for adequate Insular financial support to be exclusively and specifically used for malaria eradication and control. This fund must be disposed of by the approval of the Department Head. Like the Hospital Law, a province desiring to undertake an anti-malaria survey and some anti-malarial measures introduced in any area of its municipalities should make application therefor and should set aside an amount equal to that solicited, and the total from these two sources will be called the Provincial Fund for Malaria Campaign. Once approved, the work will be done under the charge and supervision of the district health officer.

There should likewise be appointed three classes of committees: (1) The National Committee on Malaria; (2) The Provincial Committee on Malaria; and (3) The Municipal Committee on Malaria. The National Committee will prepare the plan for the malaria survey to be undertaken in certain localities, as well as any improvements or measures that may be necessary. The Provincial and Municipal Committees will execute the work as directed by the National Committee. In this work, it is considered desirable that the local authorities should make every effort to secure the unstinted coöperation of inhabitants with regard to measure against malaria as well as mosquito-breeding.

Towards the ultimate success of this work, the coöperation of other organizations has to be requested, such as that of the Red Cross, the Public Welfare Board, and the Bureau of Education, through which the educational side of this campaign may very well be displayed. The cultivation of agricultural lands must be encouraged, the filling-up of low lands must be extended, and therefore the coöperation of the Bureau of Agriculture and the Bureau of Public Works will have to be requested also.

"These are principles not difficult of application, but they require an active interest on the community in the clear realization

of the fundamental concept that the health of the nation is the wealth of the nation and that health squandered ruthlessly and recklessly is even worse than the unpardonable waste of natural resources and accumulated material possessions."

We have now a great sanitary ideal put before us—to manage our habitations, barrios, towns, and cities so that the vermin in them, especially that of malaria, shall be reduced to the lowest possible figures. It demands only intelligence, energy, and organization on our part. This is our problem in the Philippine Islands and this is the direction in which we must go if we do wish to reduce malaria to a decidedly lesser proportion of frequency in occurrence.

STATISTICAL REPORT OF THE NEGATIVE CASES OBTAINED IN THE TREATMENT OF LEPROSY AT SAN LAZARO HOSPITAL

[From January 1, 1922, to February 8, 1925, inclusive]

By Dr. SAMUEL TIETZE

*Physician in Charge, Leper Department,
San Lazaro Hospital; Member, Leprosy Research Board, P. I.*

GENERAL STATEMENT

The object of this paper is to show the effectiveness of our treatment in obtaining negative lepers so that they may be used as a comparison with other results obtained in the treatment of leprosy carried out in various stations, particularly in India and the Hawaiian Islands.

The data used in our calculation is based on the official records kept in this Hospital. Only the decisions rendered by the Committee for the Examination of Lepers are used; they include certificates of discharge and of parole issued by the same body. No case record is used unless it is rendered positive or negative by this Committee.¹

To compute the percentages of cures, we have taken the number of negatives and based them on the number of positive cases from which these negatives were derived year by year. We have in this manner carried the particular groups of positive cases with the corresponding groups of negatives up to the present time and have given the successive percentages yearly. It is felt that these results may be more easily understood if stated in this manner.

¹ Only cases previously found microscopically positive for leprosy are included in this paper.

A. NEGATIVE CASES DURING 1922

During the year 1922, the census of positive cases in San Lazaro Hospital totaled 191. From the point of view of admission, they may be classified as follows:¹

Positive cases remaining from those admitted previous to 1921	36
Positive cases remaining from those admitted during 1921	56
Positive cases remaining from those admitted during 1922	99
Total	191

All these positive cases were subjected to treatment by various drugs, and at the end of 1922, there was a total of 29 negatives.² In Table I, these negatives are distributed according to the positive groups of admissions.

Of the 29 negatives, the following original types of disease were noted on their admission:

Negatives originally of the macular type.....	7
Negatives originally of the nodular type.....	20
Negatives originally of the mixed type.....	1
Negatives originally of the anaesthetic type.....	1
Total	29

These negatives may be further classified according to the average duration of treatment as follows:

Became negative after an average duration of 1 year....	5
Became negative after an average duration of 1½ years..	16
Became negative after an average duration of 2 years..	5
Became negative after an average duration of 3 years..	2
Became negative after an average duration of 5 years..	1
Total negatives.....	29

¹ Cases transferred, died, escaped, bonded, and coming from Culion not included.

² Although a two-year period of observation is required before he is considered cured, in this paper the date of his cure is considered on the day he is pronounced negative, microscopically and clinically by the Committee. Out of all the negatives since 1922, only one showed a temporary relapse of very short duration. This will account for the paradoxical state of producing a cure, in a case in the same year of its admission. Many cases became clinically and microscopically negative after receiving seven or eight months' treatment.

The principal treatment used was the Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine, which was responsible for 26 of the 29 negatives. The mixture of this drug and the Chaulmoogra Ethyl Esters (plain) gave one negative and the combination of the Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine and the Collobiasis of Chaulmoogra Oil gave two negatives.

Based on the number of negatives (29) obtained at the end of 1922 and the number of positives (191) treated up to the end of the same period, the percentage of cures from various drugs was 15 per cent. The Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine alone was responsible for 13 per cent.

Table I shows the distribution of the positive groups from the point of view of admission, the corresponding negatives obtained from these groups, the average duration of illness before treatment of these negatives, the average duration of treatment, the types of cases on their admission, and the class of treatments used.

Table II shows the relationship of the average duration of treatment, the average length of illness before treatment, and the number of negatives obtained during 1922.

B. NEGATIVE CASES DURING 1923

During 1923 the census of positive cases totaled 325, and consisted of the following groups:

Remaining from the positive group (after deducting the negatives obtained in 1922) admitted previous to 1921	22
Remaining from the positive group (after deducting the negatives obtained in 1922) admitted during 1921....	46
Remaining from the positive group (after deducting the negatives obtained in 1922) admitted during 1922....	94
Positive group of admissions during 1923.....	163
Total	325

This total of positive cases yielded, at the end of 1923, 36 negatives. From the point of view of the original types of the latter on admission, they may be classified as follows:

Negatives originally of the macular type.....	4
Negatives originally of the nodular type.....	27
Negatives originally of the mixed type.....	3
Negatives originally of the anaesthetic type.....	2
Total	36

Classifying further these negatives from the point of view of the average duration of treatment, we have the following:

Became negative after an average duration of treatment of 6 months.....	17
Became negative after an average duration of treatment of 1 year.....	10
Became negative after an average duration of treatment of 2 years.....	1
Became negative after an average duration of treatment of 3 years.....	3
Became negative after an average duration of treatment of 4 years.....	1
Became negative after an average duration of treatment of 7 years.....	1
Became negative after an average duration of treatment of 9 years.....	1
Became negative after an average duration of treatment of 10 years.....	10
Total negatives.....	36

Of these 36 negatives, 35 were produced by the Chaulmoogra Ethyl Esters with $\frac{1}{2}$ iodine and the remaining one by the combination of the Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine and the Collobiasis of Chaulmoogra Oil.

Calculating on the basis of 325 cases, the 36 additional negatives obtained up to the end of 1923 gave 11 per cent cures.

Table III gives detailed data regarding the positive and negative cases during 1923.

Table IV shows the relationship of the average duration of illness before treatment, the average duration of treatment, and the number of negatives produced during 1923.

C. NEGATIVE CASES DURING 1294

Duration 1924, there were 449 positive cases under treatment distributed as follows according to the time of admission:

Positive cases remaining from those admitted previous to 1921.....	19
Positive cases remaining from those admitted during 1921	39
Positive cases remaining from those admitted during 1922	75
Positive cases remaining from those admitted during 1923	156
Positive cases remaining from those admitted during 1924	160
Total	449

These positive cases yielded a total of 96 negatives distributed as follows:

Negatives from remaining positives admitted previous to 1921	7
Negatives from remaining positives admitted during 1921	12
Negatives from remaining positives admitted during 1922	14
Negatives from remaining positives admitted during 1923	51
Negatives from remaining positives admitted during 1924	12
Total	96

Grouped from the point of view of the average duration of treatment, the negatives may be further classified as follows:

Became negative after an average treatment of 6 months	19
Became negative after an average treatment of 1 year.. ..	45
Became negative after an average treatment of 2 years.. ..	15
Became negative after an average treatment of 3 years.. ..	10
Became negative after an average treatment of 4 years.. ..	5
Became negative after an average treatment of over 5 years	2
Total negatives.....	96

Grouped from the point of view of the average duration of illness before treatment, these negatives are classified as follows:

Became negative after an average duration of illness of 6 months.....	29
Became negative after an average duration of illness of 1 year.....	31
Became negative after an average duration of illness of 2 years.....	19
Became negative after an average duration of illness of 3 years.....	3
Became negative after an average duration of illness of 4 years.....	4
Became negative after an average duration of illness of 5 years.....	2
Became negative after an average duration of illness of 6 years.....	1
Became negative after an average duration of illness of 7 years.....	4
Became negative after an average duration of illness of 8 years.....	1
Became negative after an average duration of illness of 9 years.....	1
Became negative after an average duration of illness of 10 years.....	1
Total negatives.....	96

Grouped according to the original types of disease on admission, they are classified as follows:

Negatives originally of the macular type.....	4
Negatives originally of the nodular type.....	87
Negatives originally of the mixed type.....	3
Negatives originally of the anaesthetic type.....	2
Total	96

Of the 96 negatives, 89 resulted from the Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine, one from the Mercado Mixture, four from the Mixed Treatment,¹ one from the Ketonina Treatment, and one from the Eparseno.

The percentage of cures obtained during 1924 was 21 per cent resulting from the various treatments given. The Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine was responsible alone for 19 per cent.

Table V contains data concerning the positive and negative cases during 1924.

Table VI shows the relationship of the average duration of treatment, the average duration of illness before treatment, and the number of negatives obtained during 1924.

D. NEGATIVES OBTAINED IN 1925. (UP TO FEBRUARY 8 ONLY)

As the record for this year is incomplete, the results cannot be taken as representing the year 1925. We give here, however, the data up to February 8.

The census of positive patients from January 1 to February 8, 1925, totaled 370, distributed as follows:

Positive cases remaining from those admitted previous to 1921.....	12
Positive cases remaining from those admitted during 1921	27
Positive cases remaining from those admitted during 1922	61
Positive cases remaining from those admitted during 1923	105
Positive cases remaining from those admitted during 1924	148
Positive cases newly admitted during the year.....	17
Total	370

¹ Combination of Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine and Mercado mixture (Chaulmoogra Oil, camphor, resorcline, and olive oil).

During the fractional period of this year, 19 new negative cases were produced from the foregoing group-positives and classified according to the original types of disease on admission.

Nodular type (negatives).....	16
Mixed type (negative).....	1
Total negatives.....	17

Of the 17 negatives, the Chaulmoogra Ethyl Esters with $\frac{1}{2}$ per cent iodine was responsible for the 16 and the Mixed Treatment for the remaining one.

As the fiscal year 1925 is not yet complete, the percentage of cures (four per cent for this year) will necessarily be small. We expect, however, to have a higher percentage at the end of the year.

Table VII contains the various data regarding the positive and negative cases during the year up to February 8.

Table VIII gives the relationship of the average duration of treatment, the average duration of illness before treatment, and the number of negatives obtained during the period up to February 8, 1925.

SPECIAL OBSERVATIONS

(A) Taking the group of positive cases (36) admitted previous to 1921, we find that of this group up to February 8, 1925, there resulted 26 negatives as follows:

36 positive cases admitted previous to 1921 yielded during 1922.....	14 negatives.
22 of the remaining cases yielded during 1923.....	3 negatives.
19 of the remaining cases yielded during 1924.....	7 negatives.
12 of the remaining cases yielded during 1925.....	2 negatives.
Total	26 negatives.

This table gives 72 per cent cures for the positives group admitted before 1921. This treatment covered a period of more than four years.

(B) The positive group admitted during 1921 totaled 56 and yielded the following successive groups of negatives:

56 positive cases yielded during 1922.....	10 negatives.
46 of the remaining group yielded in 1923....	7 negatives.
39 of the remaining group yielded in 1924....	12 negatives.
27 of the remaining group yielded in 1925....	0 negatives.
Total	29 negatives.

The foregoing group of positive cases yielded 52 per cent negatives and received treatment covering a period of three and one-half years.¹

It is interesting to note that of these negatives (29).

25 or 86 per cent of this group were nodular on admission.

3 or 10 of this group were macular on admission.

1 or 4 of this group were mixed on admission.

(C) Of the total number of positive cases admitted during 1922:

99 yielded at the end of 1922.....	5 negatives.
94 yielded at the end of 1923.....	19 negatives.
75 yielded at the end of 1924.....	14 negatives.
61 yielded at the end of 1925.....	6 negatives.
Total	44 negatives.

This table represents 44 per cent cures after a period of treatment covering two and one-half years.

(D) Of the 163 positive cases admitted during 1923,

Became negative during the same year.....	7
Became negative during 1924 from the remaining 156 positives	51
Became negative during 1925 up to February 8, remaining 105 positives.....	4
Total negatives representing 38 per cent cures up to February 8, 1925, from treatment covering a period of one and one-half years.....	62

These 62 negatives may be classified as follows:

Negatives originally macular on admission.....	2
Negatives or 88 per cent originally nodular on admission	55
Negatives originally mixed on admission.....	3
Negatives originally anaesthetic on admission.....	2
Total negatives.....	62

(E) Of the 160 positives admitted during 1924:

Became negative at the end of the same year.....	12
Became negative during 1925 up to February 8.....	5
Total negatives.....	17

¹ As the admission dates of positive cases were scattered throughout the year and averaged an even distribution, the average time of residence (duration-treatment) of an admitted case for that year was considered as six months.

The treatment covered an average period of six months.

The 160 positive cases, therefore, receiving treatment during 1924 and 1925 up to February 8 yielded 17 negatives, or 16 per cent of cures. This low percentage of cures is accounted for by the short period of treatment.

To calculate the average per cent of cures based on some of the positive-group cases, it will be necessary to compare the groups of negatives in relation to the corresponding groups of positives receiving the same average duration of treatment.

Taking the groups of positive cases, the number of negatives which each of these groups yielded at the end of an average of one and one-half years of treatment, we find the following:

36 positives admitted during 1921	
yielded at end of 1922.....	19 negatives (34%)
99 positives admitted during 1922	
yielded at end of 1923.....	44 negatives (44%)
163 positives admitted during 1923	
yielded at end of 1924.....	62 negatives (38%)

The lowest percentage was 34 per cent and the highest 44 per cent. The average of the three percentages gave 38 per cent plus. This figure corresponds to Doctor MacDonald's report on his work in the Hawaiian Islands.

SUMMARY

1. The average percentage of cures from January 1, 1922, to February 8, 1925, was 38 per cent.

2. The greatest number of negatives obtained (see graphic charts) were those whose duration of illness before treatment averaged one year. This number received at the same time correspondingly the shortest period of treatment.

3. Eighty-six per cent of the negatives were originally of nodular leprosy on admission.

4. Of all the curative drugs used, the Ethyl Esters of Chaulmoogra Oil with $\frac{1}{2}$ per cent iodine gave by far the highest percentage of negatives.

5. Factors influencing the percentage of negatives are principally the duration of the disease before treatment and the class of drugs used.

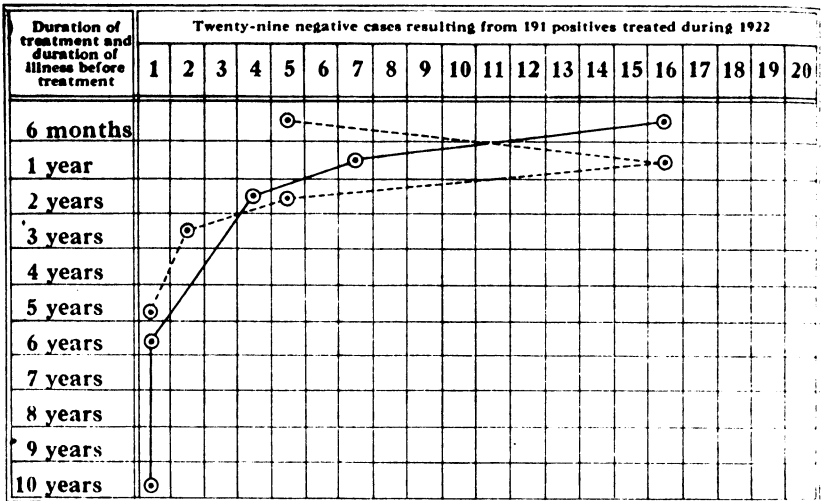
TABLE I.—Treatment record and results

1922

Time of admission in San Lazaro Hospital	Became negative during 1922	Original types of leprosy on admission (negative)				Average duration of illness before treatment of cases that became negative during 1922										
		Mac.	Nod.	Mixed	Anaest.	6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Positive cases remaining in 1922; admitted previous to 1921.....	36	14	2	11	1	7	3	4								
Positive cases remaining in 1922; admitted during 1921.....	56	10	2	7	1	6	3				1					
Positives remaining in 1922; admitted during 1922.....	99	5	3	2		3	1									1
Total.....	191	29	7	20	1	16	7	4			1					1

Time of admission in San Lazaro Hospital		Average duration of treatment of positive that became negative during 1922										Negative resulting from—			
		6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	Chaul. E. Esters of 1% Iod.	Ch. E. E. I. and Ch. Ethyl Esters	Ch. E. E. Iod. and Colloids
Positive cases remaining in 1922; admitted previous to 1921.....	36		7	4	2		1						12	1	1
Positive cases remaining in 1922; admitted during 1921.....	56		9	1									10		
Positives remaining in 1922; admitted during 1922.....	99	5	0										4		1
Total.....	191	5	16	5	2		1						26	1	2

TABLE II



○-----○ Duration of treatment.
 ○-----○ Duration of illness before treatment.

TABLE III.—Treatment record and results

1923

Time of admission in San Lazaro Hospital	Became negative during 1923	Original types of leprosy (negative during 1923)				Average duration of illness before treatment of cases that became negative in 1923										
		Mac.	Nod.	Mixed	Aracet.	6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Positives remaining in 1923; admitted previous to 1921	22	3		3			1	1			1					
Positives remaining in 1923; admitted during 1921	46	7		7			2	3		2						
Positives remaining in 1923; admitted during 1922	94	19	3	13	2	1	9	6	1				1		1	1
Positives remaining in 1923; admitted during 1923	163	7	1	4	1	1	5			1						1
Total	325	36	4	27	3	2	17	10	1	3	1		1		1	2

TABLE III.—Treatment record and results—Continued

1923

Time of admission in San Lazaro Hospital		Average duration of treatment of positive cases that became negative cases										Negatives resulting from:			
		6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	Chaul. E. Esters of Iodine	Ch. E. E. I. and Ch. E. E.	Ch. E. E. I. and Collobiasis
Positives remaining in 1923; admitted previous to 1921	22				2	1							3		
Positives remaining in 1923; admitted during 1921	46		4	3									7		
Positives remaining in 1923; admitted during 1922	94	13	6										19		
Positives remaining in 1923; admitted during 1923	168	4	3										6		1
Total	325	17	13	3	2	1							35		1

TABLE IV

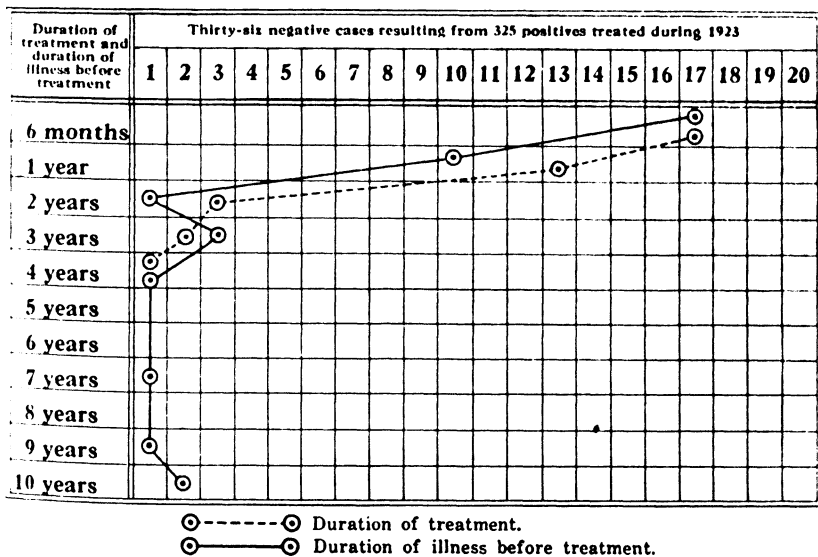


TABLE V.—Treatment record and results

Time of admission in San Lazaro Hospital	Became negative during 1924	Original type of leprosy on admission (negatives in 1924)				Average duration of illness before treatment of cases that became negative in 1924											
		Mac	Nod.	Mixed	Anaest.	6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	
Positives remaining in 1924; admitted previous to 1921. 19	7	...	6	...	1	1	3	2	...	1	...	...	...	...	...	...	...
Positives remaining in 1924; admitted during 1921. 39	12	1	11	...	...	4	3	2	...	...	1	1	1	...	...	...	...
Positives remaining in 1924; admitted during 1922. 75	14	1	12	1	...	1	3	7	...	2	...	...	1	...	...	...	...
Positives remaining in 1924; admitted during 1923. 156	51	1	48	1	1	17	19	7	1	1	1	...	2	1	1	1	1
Positives remaining in 1924; admitted during 1924. 160	12	1	10	1	...	6	3	1	2	...	...	...	...	...	...	...	...
Total. 449	96	4	87	3	2	29	31	19	3	4	2	1	4	1	1	1	1

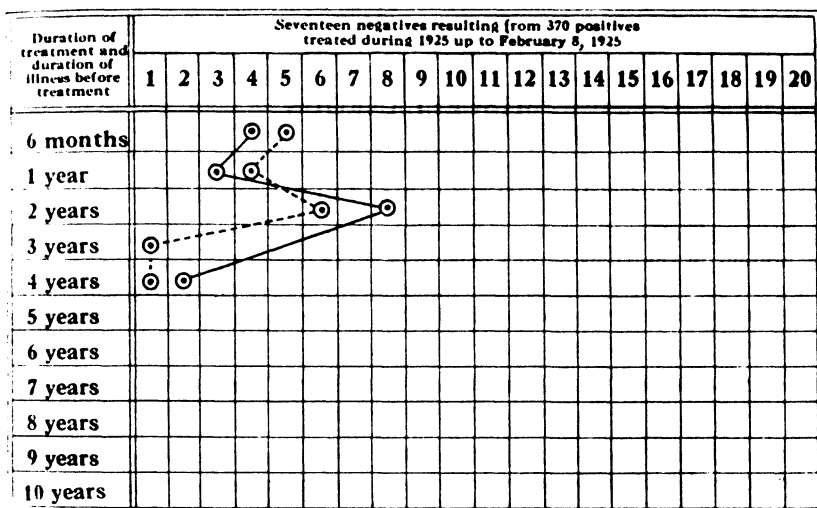
Time of admission in San Lazaro Hospital	Average duration of treatment of positive cases that became negative during 1924										Negatives resulting from—						
	6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	Chau ¹ , E. Esters of 1 % Iod.	Mercado	Mixed	Ketolina	Epareno	Dr. Reitz's
Positives remaining in 1924; admitted previous to 1921. 19					5	2						6		1			
Positives remaining in 1924; admitted during 1921. 39			2	10								12					
Positives remaining in 1924; admitted during 1922. 75		1	13									14					
Positives remaining in 1924; admitted during 1923. 156	7	44										49		0	1	1	
Positives remaining in 1924; admitted during 1924. 160	12											8	1	3			
Total. 449	19	45	15	10	5	2						89	1	4	1	1	

TABLE VII.—Treatment record and results

Time of admission in San Lazaro Hospital	Became negative in 1925	Original type of leprosy on admission (negatives in 1925)				Average duration of illness before treatment of cases that become negative in 1925											
		Mac.	Nod.	Mixed	Anaest.	6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	
Positive cases remaining in 1925																	
admitted previous to 1921.....21	2	...	2	...	...	...	...	2	...	...	...	...	...	...	...	...	...
Positives remaining in 1925;																	
admitted during 1921.....27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Positives remaining in 1925;																	
admitted during 1922.....61	6	...	6	...	...	1	...	4	...	1	...	...	...	...	...	...	...
Positives remaining in 1925;																	
admitted during 1923.....105	4	...	3	1	...	2	1	1	...	...	...	...	...	...	...	...	...
Positives remaining in 1925;																	
admitted during 1924.....148	5	...	5	...	...	1	2	1	...	1	...	...	...	...	...	...	...
Positives admitted in 1925																	
up to February 8th.....17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total.....370	17	...	16	1	...	4	3	8	...	2	...	...	...	...	...	...	...

Time of admission in San Lazaro Hospital	Average duration of treatment of the positive cases that became negative										Number of negative resulting from—						
	6 months	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	Chaul. E. Esters 1/2 % Iod.	Mercado	Mixed	Ketonina	Eparseno	Dr. Reitz's
Positive cases remaining in 1925;																	
admitted previous to 1921.21	...	...	...	1	1	...	...	...	...	...	...	1	...	1	...	...	...
Positives remaining in 1925;																	
admitted during 1921.....27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Positives remaining in 1925;																	
admitted during 1922.....61	1	5	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...
Positives remaining in 1925;																	
admitted during 1923.....105	3	1	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...
Positives remaining in 1925;																	
admitted during 1924.....148	5	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...
Positives admitted in 1925																	
up to February 8th.....17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total.....370	5	4	6	1	1	...	...	...	...	...	...	16	...	1	...	...	...

TABLE VIII



○-----○ Duration of treatment.

○————○ Duration of illness before treatment.

MISCELLANEOUS

DOCTOR GOMEZ ROCKEFELLER FELLOW

The application for fellowship of Dr. Francisco Gomez, who is detailed at present in the Division of Communicable Diseases, has been approved by the office of the Rockefeller Foundation at New York City. He will, therefore, be leaving very soon for the United States to specialize on industrial hygiene.

CAMPAIGN FOR THE SAFE WATER SUPPLY IN PRIVATE SCHOOLS AND COLLEGES

It has been found, on inspection, that there are no sufficient filters for drinking water of students in private schools and colleges. These students were forced to drink water taken directly from the faucet which, at this time, is rather turbid and not advisable for drinking purposes in such large institutions of learning. The Health Service is now making a campaign with a view to install more filters in these private schools and colleges in the City of Manila, in proportion to the number of students therein.

VISITORS TRIP TO CULION

The public is reminded that the visitors trip to Culion on the Bustamante, as announced in the local press few weeks ago, will be made next Monday, July 6, 1925. The trip will start at 8 a. m. on that day and those who have passes should be ready before that time.

DOCTOR PADUA BACK FROM CAMP STOTSENBURG

In connection with the proposed malaria campaign to be conducted in the three barrios around Camp Stotsenburg, Medical Inspector Regino G. Padua and Mr. Luis P. Claustro of the Division of Sanitary Engineering left yesterday morning with Major Hawley of the Medical Corps, U. S. Army, to take a view of the situation and to estimate the length of time and cost of such a proposed investigation. They came back yesterday evening, July 2, 1925.

NEW ASSIGNMENTS

Dr. Fernando Soberano having been appointed President, 9th Sanitary Division of Iloilo and having completed his training in the Service, was directed to proceed by first available transportation to Iloilo, Iloilo, reporting upon arrival thereat to the District Health Officer for duty.

Dr. Francisco Rosario having been appointed President, 2nd Sanitary Division of Ilocos Sur and having completed his training in the Service, was directed to proceed by first available transportation to Vigan, Ilocos Sur, reporting upon arrival thereat to the District Health Officer for duty.

relieving Dr. Alejandro Arce who was transferred to the 3rd Sanitary Division.

Dr. Jose J. Orozco having been appointed Acting President, 2nd Sanitary Division of Masbate and having completed his training in the Service, was directed to proceed by first available transportation to Masbate, Masbate, reporting upon arrival thereat to the District Health Officer for duty.

Dr. Numeriano Vinteres having been appointed President, 7th Sanitary Division of Ilocos Norte and having completed his training in the Service, was directed to proceed by first available transportation to Laoag, Ilocos Norte, for duty. He shall report to the District Health Officer.

WARNING TO THE PUBLIC

An assistant sanitary inspector, living in 45 interior No. 314 España Street, has lost his badge No. 117. The public is therefore warned of the loss in order to prevent the illegal use of such a badge in case it is worn by persons not duly authorized to wear it. Any person who will, by chance, see badge No. 117 worn by a uniformed assistant sanitary inspector will please report same to a policeman or to this office immediately, as by so doing, he will be coöperating with the Service.

INFANT MORTALITY IN THE PHILIPPINES

The alleged increase of infant mortality in the Philippines during the year 1924 cannot yet be taken as final in view of the fact that the data are still incomplete. The figures on infant mortality rate, as well as the birth and marriage rates, and the general mortality rate from all causes and all ages, as stated in the brief report of the Director of Health, were partial at the time the latter was submitted. The vital returns from the provinces were, as usual, not yet received at the time of writing of the brief report and are still under way of consolidation in the Office of Vital Statistics of this Service. In other words, there is no definite conclusion as yet as to whether or not the infant mortality rate for the year 1924 per thousand births is higher or lower than that of 1923. This information is given in order to obviate misunderstandings on the part of the public with regards to what has been published in the local press.

TYPHOID SITUATION

Contrary to what has been published in the local press, this office desires to state that there are not enough evidences to show that the typhoid incidence in the City of Manila is due to water infection alone. Moreover, the typhoid situation in the city is well as in the provinces is not alarming.

CHOLERA AND TYPHOID SITUATION IN THE CITY

During the last 48 hours no cholera nor typhoid cases were reported nor admitted to the San Lazaro Hospital. This condition of affairs is very remarkable.

REORGANIZATION OF THE COMMITTEE ON PUBLICATIONS OF THE SERVICE

Publicity has assumed such an importance in modern public health work that the Director of Health has deemed it advisable, effective July 1, 1925, to reorganize the Service Committee on Publications on a broader scope

with a view to make the Monthly Bulletins more truly the publication which should reflect the policy of the Service and the activities of its personnel. A central committee, is, therefore, created with Dr. J. P. Bantug as chairman, and Dr. Leoncio Lopez Rizal, Dr. Sixto Y. Orosa, Dr. Teofilo Corpus, Dr. Regino G. Padua, Dr. Elias Domingo, Dr. Manuel V. Arguelles, members, and a provincial committee with the district health officers as corresponding members. The central committee will be responsible for the editing and publication of the monthly bulletins, annual reports, pamphlets and other important publications of the Service. It will also collect and compile data, articles, and statistics pertaining to public health and publish them for the information of the public.

District health officers as corresponding members will abstract from their monthly reports all the interesting information about their districts, especially with regards to the prevalence and distribution of communicable diseases, which should be sent to the central office not later than the tenth of the month following that for which the report is made. They are also expected to contribute articles dealing with local health problems in the solution of which they have taken an active part.

The committee will automatically cease from its labors at the end of each calendar year unless sooner replaced by the Director of Health.

The committee will meet once a week at the call of the Chairman.

ADMINISTRATIVE INFORMATION

Dr. Emilio Licaucó, president of sanitary division, Mati, Davao, resigned from the Service—his resignation having been accepted.

Dr. Pedro Dimayuga, president of sanitary division of Naujan, Mindoro, has been suspended and is being under administrative investigation.

CAMPAIGN AGAINST PLAGUE

During the month of June, 1925, there were 4,392 rats caught in the City of Manila. These were all sent to the Bureau of Science for bacteriological examination and none was found positive for bacillus pestis.

PROVINCIAL HOSPITALS

Upon insisting demand on the part of press representatives, this office desires to state that the hospitals are really a burden to the provinces from a financial standpoint. However, the value of hospital works as an aid to attain the objective of public health service cannot be underestimated. These two agencies should go together for the promotion and maintenance of the health of the community, the hospital being an adjunct for the purposes of sanitation. In other words, the hospital activity is not all the whole health service but it is secondary to or an instrument for the major portion of the work, namely, hygiene and sanitation of community districts.

EXAMINATION FOR EMBALMERS

The Board of Embalmers will give a regular examination to candidates for the practice of embalming on Monday, July 20, 1925. Applicants should, therefore, send their applications to the Director of Health so that they will be received not later than Saturday, July 18, 1925.

CHOLERA SITUATION

During the last 24 hours, no cholera nor cholera suspect was reported to the Health Service nor admitted at San Lazaro Hospital.

DOCTOR ARENAS ON THE LEPER COLLECTION TRIP

Dr. Felipe Arenas, District Inspector, and Chief of the License Section of this Service, left Manila at 4 o'clock p. m., Saturday, July 11, 1925, on the steamship *Bustamante*, and detailed to be in charge of the visitors' and leper collection trip in southern islands including Mindanao and Sulu. He was also directed to proceed to Antique to investigate the charges preferred against one sanitary inspector for having taken an active part in the last electoral campaign.

COMMITTEE ON THE TREATMENT OF LEPROSY

In view of the absence of several members abroad and for the purpose of continuing the clinical investigation of leprosy at the San Lazaro Hospital, the Committee on the Treatment of Leprosy was reorganized to be composed of the following officers:

Dr. J. P. Bantug, *Chairman*.

Dr. Manuel V. Arguelles, *Member*.

Dr. L. Lopez-Rizal, *Member*.

Dr. Samuel Tietze, *Member*.

Dr. R. G. Padua, *Member*.

Dr. Proceso Gabriel, *Member*.

A record of each patient will be carefully kept by the Committee noting the kind of treatment given, the clinical course of the disease and the final outcome at the completion of the investigation. In other words, the Committee will function exclusively for the good and welfare of such leper inmates in San Lazaro Hospital as will be selected by it for thorough investigation and treatment.

CHOLERA AND TYPHOID SITUATION IN THE CITY

During the last 72 hours, no cholera case nor cholera suspect has been reported to the Health Service nor admitted at the San Lazaro Hospital.

The typhoid incidence in the City is also apparently decreasing, since during the last 24 hours ending 8.00 a. m. July 13, 1925, no case was reported to the health authorities.

POPULATION INCREASE OF 151,826 IN THE PHILIPPINES DURING THE YEAR 1924

The result of the compilation of statistical data in the Office of Statistics of this Service shows that during the year 1924 there were 381,367 births and 229,541 deaths. At the end of the year, therefore, there was a gain of 151,826 as against the average gain of population of 140,728 during the last five years. The figures clearly show that the gain in population during the year 1924 was 7.88 per cent more than the average gain during the last five years ending 1923. The total population of the Philippine Islands during the year 1924 was estimated to be 11,234,409 and the average population during the last five years was 10,732,532.

The total death rate from all causes and of all ages during the year 1924 was 20.43 per 1,000 population, while the average death rate during the last five years was 21.17. Similarly, the infant mortality rate per 1,000

births during the year 1924 was 160.76 while the average during the last five years was 165.72. These figures clearly indicate that during the year 1924, both the general death rate and the infant mortality rate were smaller than those of the average of the last five years.

The Health Service informs that there are in operation 152 puericulture centers in the provinces under the Public Welfare Commissioner. These centers are helping this Service a great deal not only in the reduction of infant mortality but also in the dissemination of sanitary knowledge with regards to the care of mothers and babies.

RECTIFICATION OF NEWS

In order to rectify what had been published in the local press, this office desires to give out into the circular with regards to revocation of policy to keep voluntarily presented lepers in San Lazaro Hospital. This step has been found necessary in order to keep the public informed of the exact situation and thus avoid misunderstandings.

"1. In order that due information may be conveyed to all who may be interested in the matter of the isolation of lepers in San Lazaro Hospital, and chiefly as to the policy of keeping voluntarily presented lepers in the said Hospital adopted by the Service, it is announced that the said policy is hereby revoked.

"2. This announcement should be borne in mind by the health officers and conveyed clearly to all concerned when occasions are propitious to avoid any criticism against the Service for unfulfilled promise that lepers will not be sent to Culion. Furthermore, no promise or information should be given hereafter by the health officers to lepers or their relatives that voluntarily presented lepers will not be sent to Culion."

The above circular does not convey the meaning that San Lazaro Hospital will close its doors to the lepers. It merely revokes the former policy that lepers who voluntarily present themselves to San Lazaro Hospital can claim the privilege, not do say the right, to stay there and not be sent to Culion Leper Colony. In other words, a leper may or may not stay at San Lazaro but no promise will be given him that he will not be sent to Culion.

MONTHLY REPORT OF SANITARY ENGINEERING

The Division of Sanitary Engineering reports that at the beginning of June, there were 436 sanitary orders pending; and that during the month 58 sanitary orders were issued, 37 completed, 11 cancelled, thus leaving at the end of June 446 sanitary orders pending compliance.

MALARIA IN NUEVA VIZCAYA

The news that 900 settlers in the Province of Nueva Vizcaya are facing deaths from malaria unless help is furnished, is not at all true. There are some sporadic cases of malaria but the situation is in no way alarming. The information that has been published in the local press sometime ago was rather exaggerated.

NATIVE PRODUCT "BAGOONG"

It has been found that this native product called "bagoong" used to be transported from provinces to the city and viceversa in open containers, accessible to flies, and occasionally full of fly larvae with nauseating odor.

Obviously, this condition is not conducive to health; on the other hand, it will become a prolific source of infectious diseases, not to exclude the possibility of gastrointestinal derangements due to decomposed products therein.

With a view to prevent such undesirable results, the local health Officers or his authorized representatives were directed to confiscate, condemn, and destroy "bagoong" found with fly larvae or in decomposed state. This product should be transported in a sanitary manner and in a hermetically sealed container.

SURFACE WELLS

For the information of the public, especially those concerned, an administrative order of this office, which is self-explanatory, is hereunder quoted:

"1. Under the provisions of Sections 914 of the Revised Ordinances, City of Manila, and as a part of the anti-mosquito campaign now being undertaken, any surface well, tank or cistern, detected by the sanitary personnel in their daily house to house inspection not mosquito-proof, or without a written permission from the Director of Health, shall be ordered securely and completely closed in such manner as the Director of Health or his authorized representative may dispose.

"2. Water from any kind of well or cistern may be used for drinking purposes provided that a written permit therefor be secured from the Director of Health, and provided further, that such well or cistern is mosquito-proof.

"3. Surface wells used for garden purposes may be authorized to continue provided that the sanitary requirements specified in the inclosed sketch be complied with, and provided further, that same is constructed under the supervision of the Sanitary Engineer.

"4. Persons desiring to sink, dig, drive or bore a well in the City of Manila shall secure first a permit from the City Engineer and the Director of Health, as provided in Section 915 of the Revised Ordinances of the City of Manila."

ICE-CREAM AND SHERBET STREET PEDDLERS

In order to regulate the sale of ice-cream and sherbets sold by street peddlers from sanitary standpoint, an administrative order of this Service was issued which is hereunder quoted, for the information of all concerned:

"1. Ice-cream and sherbet street peddlers will be allowed to serve drinking water under the following sanitary requirements:

(a) When they shall serve distilled water, artesian water or other sterile and pure water approved by the Director of Health or his authorized representative;

(b) When they shall use a water contained approved by the health authorities;

(c) When they shall clean containers every day with boiling water or any disinfecting solution as directed by the health authorities; and

(d) When they shall use individual paper-cup only to the exclusion of common cups."

PREPARATION OF SAUSAGE

In view of the fact that an insanitary and faulty preparation of sausage may bring about undesirable consequences, it was necessary to require those

that are engaged in the business that they be provided with a sanitary permit from the License Section of this Service, and that the Health officer in charge of this Section was directed to require, before approving a license of this class of business, the compliance of the same sanitary regulations as are required of subsistence contractors.

This information is given out for the benefit of those concerned.

DOCTOR CHIYUTO, CHIEF OF CULION LEPER COLONY

Dr. Sulpicio Chiyuto has been designated Chief of the Culion Leper Colony, effective August 1, 1925, to substitute Dr. Avellana Basa whose resignation has been approved effective that date. Doctor Chiyuto is now in Manila in conference with the Director of Health and other authorities interested in the treatment of leprosy. He will proceed to Culion by the first available transportation in order to arrive thereat, if possible, before August 1, 1925.

SCHOOL MEDICAL INSPECTION PUSHED

In order to activate the school medical inspection in the provinces, a memorandum has been sent to all district health officers, presidents of sanitary divisions, provincial public health nurses and others concerned inviting their attention to the provisions of former circulars which prescribed the thorough physical examination and medical inspection of school children. Such examination is obviously important in that it includes the detection of communicable diseases, of defects of vision, of carious teeth, of hypertrophy of the tonsils and presence of adenoids, and of all other physical defects, with a view to have them corrected in a short a time as possible. The local health officers were directed to perform this duty of school medical inspection in connection with their regular inspection trips to towns or barrios. The principals of the schools were requested to report immediately to local health officers the existence of any suspicious diseases among the school children, so as to enable the health officer to make proper arrangements with the school nurses with a view to correct the existing condition before it becomes a menace to the community. The significance of the work is such that negligence of it on the part of those concerned cannot be tolerated, since upon a thorough and systematic medical examination and attendance of school children depend in general the health of the promising generation to come and, in particular, the prevention of the spread of contagious diseases that may likely occur from such a close contact of the pupils in school rooms.

AFFILIATION WITH CERTAIN SECRET ORGANIZATIONS OR SOCIETIES

In view of the inevitable drawbacks that may be produced by the affiliation of health officers and employees with secret organizations or societies in their capacity as public servants, and for the information of those concerned, an administrative order of the Director of Health, as approved by the Honorable, the Secretary of Public Instruction, has been issued to restrain and prohibit such officers and employees from becoming members thereof. The order, which is self-explanatory, is hereunder quoted:

"1. Reports have been received from certain quarters to the effect that many employees of this Service, in the provinces as well as in Manila, are members of certain secret organizations or societies.

2. It is a matter of general knowledge that in many, if not in all, of those societies applicants for membership are required, before becoming members, to subscribe to an oath which substantially imposes upon them the moral obligation of supporting such organizations, obeying the by-laws and defending or protecting their co-members. While it is not asserted as an indisputable conclusion that a government employee who has taken such an oath as member of an organization distinct from the government will not, in case of conflict of interest between the government and the organization or that of the former and a co-member, support the cause of the government, still his affiliation with the organization will undoubtedly tend to embarrass and in some way interfere with the proper exercise of his official duties. Moreover, under such circumstances, his form of conduct is likely to invite suspicion.

3. When one is employed in the service of the government and upon his acceptance of such employment, it becomes legally understood that he would keep inviolate his official oath and will faithfully and impartially discharge his duties as such employee. If he violates his oaths or places himself voluntarily in a position in direct conflict with the official obligation for which he was employed, or subscribe to an oath which tends to interfere with the faithful performance of his official duties and as a consequence commits and overt act or acts of the nature mentioned, he becomes an undesirable employee and may be made the subject of removal proceedings 'in the interest of the public service' or 'for conduct prejudicial to the best interest of the service.'

4. In order to avoid such occurrences as may unfavorably reflect upon the fidelity and integrity of all concerned and in the interest of good government, officers and employees under the jurisdiction of the Philippine Health Service are hereby instructed to refrain from joining secret organizations or societies when their membership thereto will interfere with the proper discharge of their official duties. Such officers or employees as are at present members of such organizations or societies are hereby enjoined to sever, immediately their connections therewith.

5. This order is issued in the nature of a regulation and a violation of any of its provisions as may come within the official cognizance of this office will be dealt with accordingly.

6. This shall not, however, be construed as prohibiting officers or employees of this Service from becoming members of societies or associations organized for religious, recreative or athletic ends or those devoted to the uplift of humanity, which in no way influences their members in the due performance of their official duties as officers or employees in the Government service."

PUBLIC HEARING ON ICE CREAM

The Board of Food Inspection will hold a public hearing next Tuesday, July 28, 1925, at 10 a. m., in the office of the Chief, Division of Metropolitan Sanitation, Philippine Health Service, 251 General Luna, Intramuros, for the purpose of giving opportunity to the public to express its views on a plan of providing, in addition to the actual standard for sorbete, another one with a lower milk content. The present standard for *sorbete de leche* requires that this product must contain at least six and one-half (6.5%) per cent of milk fat, and that for *nut or fruit sorbete de leche*, five and one-half (5.5%) per cent of milk fat. The public is invited to attend this hearing and to emit its opinion on the subject.

MONTHLY REPORT OF CULION LEPER COLONY

The Chief of the Culion Leper Colony reports that during the month of May there were 2 admissions, 6 births and 34 deaths. During the Labor Day celebrated in the Colony, the inmates were very enthusiastic and took

active part in the social affair. Appropriate speeches were given by some of them.

In the hospital proper, the movements of the patients during the month were as follows:

Number of patients remaining last month.....	293
Number of patients admitted during the month.....	103
Number of discharges.....	126
Number of remaining at the end of the month.....	270

Of the 49 patients presented to the Committee for examination during the month, 41 were declared negative. Of these negative lepers, 22 were new candidates and the rest already on the negative list.

RESOLUTION ON LEPROSY

The people of Zambales should be highly congratulated for having demonstrated, through the municipal presidents, a sublime spirit of civism. In a resolution unanimously approved by the Assembly of Municipal Presidents held on January 10, 1925, at Iba, Zambales, this spirit has been eloquently revealed worthy to be emulated by other provinces which no doubt do willfully coöperate with the Health Service in eliminating the disease "leprosy" from our country. For the sake of justice, the said resolution is hereunder quoted:

"RESOLUTION NO. 21

"A moción del Presidente de San Felipe, secundada por el Presidente de Subic,

"*Se resuelve*, Rogar como por la presente se ruega al Director de Sanidad para que tome las medidas necesarias a fin de que el aislamiento de leprosos de sus familias, parientes y vecinos, sea más estricto o efectivo. y en caso de admitirse fianza personal, que no se les permita convivir con sus familias no contagiadas a fin de evitar mayores males.

"Aprobada por unanimidad."

PERSONNEL OF PANGASINAN PROVINCIAL HOSPITAL

Dr. Raymundo Camacho has been appointed Director of Pangasinan Provincial Hospital which is located at the municipality of Dagupan, and Dr. Luis B. Garcia, resident physician. Misses Luz Cañiza, Melchora Pinlac, and Maria de Guzman were designated as Chief Nurse, Surgical Nurse, and Dietitian respectively, Miss Sabina Castillan has recently been appointed one of the ward nurses. The other positions of ward nurses have not yet been filled.

ASSISTANT SANITARY INSPECTOR UNDER INVESTIGATION

Assistant Sanitary Inspector Carlos de Lara, who has been working in Paco Health District, has been suspended from duty pending administrative investigation of certain irregularities committed by him. A board of medical officers was appointed to conduct said investigation.

CHANGES OF PERSONNEL

The following physicians were appointed presidents of sanitary divisions in different provinces as mentioned opposite their names:

Dr. Candido F. Garcia.....	Second Sanitary Division of Bulacan.
Dr. Angel C. Vizconde.....	Second Sanitary Division of Davao.
Dr. Guillermo Blanco.....	Ninth Sanitary Division of Leyte.
Dr. Severo C. Palinar.....	Fourteenth Sanitary Division of Pangasinan.
Dr. Demetrio Lacuna.....	Ninth Sanitary Division of Nueva Ecija.
Dr. Tomas J. Asturias.....	Third Sanitary Division of Romblon.
Dr. Jose Chivi.....	Fourth Sanitary Division of Mindoro.
Dr. Venancio Garcia Bustos..	Third Sanitary Division of Oriental Negros.
Dr. Agustin L. Somido.....	Ninth Sanitary Division of Oriental Negros.
Dr. Telesforo Buño.....	Eighth Sanitary Division of Iloilo.

Dr. Antonio Ejercito was appointed Surgeon in the Philippine Health Service and directed to report to the Medical Officer in charge of Health Station No. 1, Meisic, Manila, for duty, effective July 7, 1925.

Dr. Trinidad L. Yusay was directed to report to the District Health Officer of Bulacan for training in the duties of a district health officer.

Dr. Jose Sian was designated, effective July 1, 1925, in addition to his usual duties, Acting District Health Officer of the Province of Agusan.

DOCTOR FAJARDO CONGRATULATED BY THE OFFICERS OF THE PHILIPPINE HEALTH SERVICE

Upon the ratification of the appointment of Dr. Jacobo Fajardo as Director of Health, by the Philippine Senate, the staff of the Philippine Health Service and other health officers in the different Health Stations of the City of Manila, and the employees in the Central Office, assembled this morning, July 28, 1925, in the Office of the former to congratulate him. Doctor Intengan and Doctor Hernando voiced the sentiment of all the officers and employees of this Service, in that the latter were satisfied in his appointment, and reassured the Director of Health once and for all an unconditional coöperation and loyalty to him in the performance of his duties as Chief of this branch of the Government.

Doctor Fajardo, feeling much moved of the occasion, expressed himself briefly but impressively, thanking the cordial manifestations of the officers towards him. He stated that he deeply felt satisfied of the work so far rendered by the officers and employees of the Service and hope that, in the future, they will continue to be as efficient and loyal to the Service as they are today. He asserted that he does not intend to alter, because of the ratification of his appointment, his already established policies with regards to the administration of the affairs of the office as well as that of the personnel. In short, he said that he will try to be just and fair to the efficient employees, at the same time firm and strict to those who do not live up to the required standard of efficiency.

**PROVINCIAL HEALTH OFFICERS' ASSEMBLY OF RIZAL TO BE
HELD AT PASIG, ON AUGUST 5, 6, AND 7, 1925**

PROGRAM

First Day

1. Opening of the Convention.

Presiding Officer—The District Health Officer, Rizal Province, 9 a. m.

1. Roll call.

2. Welcome address—by the Hon. Provincial Governor.

3. Opening address—by the Director of Health.

4. "Two Words regarding LA DEFENSA INDIVIDUAL COLECTIVAMENTE HABLANDO Y LA DESTRUCCIÓN O REMOCIÓN DE LAS CAUSAS DE ENFERMEDADES—by Dr. Florentino Ampil, District Health Officer, Rizal Province.

5. Recess for 30 minutes.

6. Lunch.

2. Scientific Session, 2 p. m.

1. Sanitation of markets and public places—by Dr. Jose Concepcion, President of the 3rd Sanitary Division, province of Rizal.

Discussion opened by Dr. Leon Melendres, President of the 10th Sanitary Division, province of Rizal.

2. Collection and disposition of garbages—by Dr. Bonifacio Zamora, President of the 8th Sanitary Division, province of Rizal.

Discussion opened by Dr. P. T. Rosario, President of the 9th Sanitary Division, province of Rizal.

Second Day

3. Scientific Session, 8 a. m.

1. Sanitation of restaurants, food stores, (carinderias) bakeries, peddlers, etc., etc.—by Dr. Salvador Ramos, President of the 4th Sanitary Division, province of Rizal.

Discussion opened by Dr. Paulino Trinidad, President, 7th Sanitary Division, Rizal.

2. Water supplies; Artesian wells; Sources and nature of water pollution and infection—by Dr. Antonio Olba, President, 12th Sanitary Division, Rizal.

Discussion opened by Dr. Eugenio Santos, President, 11th Sanitary Division, Rizal.

3. Stables: Construction and process regarding collection and disposition of horse manures—by Dr. Lorenzo Fernandez, President of the 6th Sanitary Division, province of Rizal.

Discussion opened by Dr. Benito Cruz, President of the 2nd Sanitary Division, province of Rizal.

4. Lunch.

4. Scientific Session, 2 p. m.

1. Procedure and difficulties in the issuance of sanitary orders—by Dr. Julio Ruiz, President of the 5th Sanitary Division, province of Rizal.

Discussion opened by Dr. Jose Concepcion, President of the 3rd Sanitary Division, province of Rizal.

Second day—Continued

4. Scientific Session, 2 p. m.—Continued.

2. Efficient measures in the campaign against domestic loose animals—by Dr. Clemente Banzon, President of the 1st Sanitary Division, province of Rizal.

Third Day

5. Scientific Session, 8 a. m.

1. Activities of public dispensaries and its influence to the people by Dr. F. T. Rosario, President of the 9th Sanitary Division, province of Rizal.

Discussion opened by Dr. Salvador Ramos, President of the 4th Sanitary Division, province of Rizal.

2. Venereal Diseases: Control and disposition of cases—by Dr. Eugenio Santos, President of the 11th Sanitary Division, province of Rizal.

Discussion opened by Dr. Lorenzo Fernandez, President of the 6th Sanitary Division, province of Rizal.

3. Lunch.

6. Business Session, 2 p. m.

1. Unfinished business.
2. Motions.
3. Resolutions.
4. Closing remarks—by Dr. Gabriel Intengan, Division of Provincial Sanitation, Philippine Health Service.
5. Supper (Hotel de France) at 7 p. m.

DOCTOR AVELLANA'S RESIGNATION ACCEPTED

Dr. Jose Avellana Basa has sent a letter to the Director of Health tendering his resignation as Senior Medical Inspector of the Philippine Health Service and Chief of the Culion Leper Colony. That Doctor Avellana has rendered faithful and satisfactory services to the Government, may be seen in the letter of the Governor-General to him, which says in part:

"I am constrained to accept your resignation but do so with reluctance. I regret we are to lose the benefit of your services at Culion where you have done much valuable work. Please accept my best wishes for your success in all your future undertakings."

The Philippine Health Service appreciates highly the patriotic and sacrificing services of Doctor Avellana and is in full accord with this statement of His Excellency, the Governor-General.

RULES TO BE FOLLOWED DURING THE SESSIONS OF PROVINCIAL HEALTH OFFICERS ASSEMBLY AT PASIG, RIZAL, ON AUGUST 5, 6, AND 7, 1925

Scientific Meetings—

- (a) All the scientific papers will be read in not more than 30 minutes.
- (b) Discussion on any paper will not last more than five minutes for any individual, and no one will be allowed to discuss three times unless with the consent of the majority.

Scientific Meetings—Continued.

- (c) At least, one copy of the paper to be read should be handed to the Director of Health or his authorized representative one day before its presentation.

Business Meetings—

- (a) Drafted resolutions, in duplicate, should be submitted to the Secretary of the Convention one day previous to the opening of the business session.
- (b) The Chair reserves the right to determine the importance and practicability of each resolution as well as motion. With this end in view, it is requested that the mover should study carefully any motion or resolution before presenting the same for adoption.
- (c) Upon making a motion or drafting a resolution, preference should be given to matters or questions affecting the Service in general.

Administrative Procedures—

- (a) Punctual attendance of each and every one concerned in all the scientific and business sessions, as well as in social gatherings, is strictly required.
- (b) Close observance of the existing regulations governing uniforms and other disciplinary matters is expected of the health officers and personnel in convention.
- (c) On the day of the inauguration of the convention, the District Health Officer of the province of Rizal shall make all available effort to induce and invite the presence of all insular, provincial, and local officials, namely, the Senator or Representative of the district, if they are at the time in the province, the Provincial Governor, the Judge of the Court of First Instance, the Provincial Treasurer, the Provincial Fiscal, the Division Superintendent of Schools, the Provincial Commander of the Philippine Constabulary, the District Engineer, the members of the Provincial Board, the Municipal President, and other municipal officials, including the municipal councilors. Soft drinks and refreshments will be offered to the guest during the recess.
- (d) The Director of Health, or his authorized representative, will preside all the scientific and business meetings.
- (e) Efforts will be made to secure the services of a stenographer from any office of the Provincial Government during the session.

To attend—

- (a) Presidents of Sanitary Divisions will arrange the routine work and emergency need in their respective division in such manner that efficient Sanitary Inspector should be detailed to their offices, before leaving their station to attend the Health Officers' Assembly in Pasig, Rizal.

DOCTOR LAYGO TO DRAFT SERVICE MANUAL

District Inspector Pacifico Laygo has been detailed to prepare a draft of the Service Manual and directed to submit the same to the Director of Health, upon completion, for approval. This was found necessary in order to have a uniform guide for all health officers and personnel concerned and to systematize the work and activities of the Service.

DOCTOR CUERPOCRUZ DOING SCHOOL MEDICAL INSPECTION WORK

Surgeon Macario E. Cuerpocruz was directed to report to the Chief of the Office of General Inspection for duty in school medical inspection.

PROVINCIAL NOTES

ALBAY

The hookworm campaign started July 1st in Polangui and continued there until July 31st, 1,507 persons having been examined. Of these 1,451 equal 96 per cent had parasites of one kind or another, 976 equal 64 per cent had hookworms, 872 equal 58 per cent had ascaris, and 309 equal 20 per cent had trichuris. Several cases with but ten to fifteen per cent of hemoglobin were found. The general sanitary condition of the province is satisfactory.

ANTIQUE

Dr. Felipe Arenas, District Inspector, on July 15 arrived in this District. He investigated the complaint against sanitary inspector, Mr. Epimaco Diso, for a case involving electoral participation.

BATANGAS

Thirty-nine conferences were given, 21 schools inspected and 3,337 pupils were examined by the President Sanitary Divisions and District Nurses. 126 persons were injected with pure cholera and 97 with pure typhoid vaccine. Sixty seven new Antipolo closets were being constructed in 14 Municipalities.

CAMARINES SUR

The cholera campaign was extended to almost all the towns of the province just as soon as the cholera vaccine was received by the District Health Officer. As a result of which from the time of July 9 to the end no more cases of like nature were registered throughout the province.

CEBU

During the month, the medical examination of School children was started in the City of Cebu, at the Cebu Central school where there are 38 cases with a total number of 1,747 school children enrolled. The examination of school children as started has been modified and is patterned similar to the school examination performed in the province of Zamboanga, namely, the follow-up work and the health charting of every school children in the district. Dr. Cesar Filoteo, Assistant to the District Health Officer has been designated to take charge of the school examination of the municipality of Cebu.

ISABELA

During the month there were 1,278 persons vaccinated with antismallpox vaccine; 1,022 of this vaccinations was inspected with 528 positives.

LEYTE

The general health conditions of the province during July have been good although the mortality rose up to epidemic points in a few of the municipalities due to dysentery and pulmonary diseases as complication of measles.

The general crude death rate for the month had been 18.7 x 1,000 population. The most important communicable diseases leaving during the month, being, tuberculosis, malaria and dysentery, measles although being one of the causes of deaths is not reported as such but as bronchitis and pneumonia.

NUEVA ECIJA

Yaws campaign in Santo Domingo with neo-salvarsan is successful.

NUEVA VIZCAYA

Anti-mosquito campaign is being undertaken by the entire personnel in this district in connection with their house-to-house inspection. Enumeration of all immigrants found in the whole province is being made in order to get the exact number of immigrants actually found in the province to institute the necessary measures.

RIZAL

General Health condition of the district is good even though certain cases of cholera dysentery and enteritis were registered in some municipalities of the district, but same have been controlled in due time.

ZAMBOANGA

Antivariolic vaccination.—The immunization of children especially the newly born against smallpox is carried on by the local health officers. 1,961 were vaccinated during the month.

Anticholera and antityphoid vaccination.—327 have been given inoculation in the municipality of Zamboanga alone during the month of June.

Trachoma.—Trachoma among school children is rather common but the campaign against the disease has to a great extent diminished the number infected.

A total of 124 Japanese have been examined during the month for intestinal parasites. The following result was obtained: Trichuris, 19; Ascaris, 7; Strongyloides, 3; Hookworm, 1; Amoeba Cyst, 1; Trichuris and Ascaris, 3; and Trichuris and Hookworm, 2.

MOVEMENT OF PERSONNEL

Dr. Demetrio Lacuna has been ordered to proceed to Nueva Ecija. Nurse Esteban Bandijo ordered to proceed to Davao.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of July, 1925)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1924¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,184
Filipinos.....	235,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	312,188

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,340
No. 3, Paco.....	78,546
Total.....	312,188

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,418
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,320
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,188

¹ Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS, JULY, 1925

Date	Pres- sure mean ¹	Temperature					
		In shade ²				Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.
							8 a. m. mean 2 p. m. mean
	mm.	°C.	°C.		°C.		°C.
1-10.....	755.72	27.0	32.3	2	23.0	2	29.6 29.7
11-20.....	57.86	26.5	33.3	16	22.2	17	28.5 28.6
21-31.....	58.26	26.6	32.2	29	22.3	23	29.5 29.9

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	83.6	88.7	9	78.8	2.3
11-20.....	85.4	91.0	13, 20	79.7	17
21-31.....	83.5	86.0	26	79.8	23

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Total	Velocity		Total	Daily maxi- mum	Day
			Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10	SW	3,260.0	830.0	8	25.8	4.8	3
11-20	Variable	2,283.0	720.5	13	22.4	3.8	17
21-31	SW	2,654.0	348.5	24	34.8	3.9	29

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	36 25	8 40	3	247.4	5
11-20.....	28 05	9 15	17	239.6	6
21-31.....	66 10	7 50	21	67.3	11

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instrument mounted in the Observatory park, 1.5 meters above ground.

BIRTHS REPORTED IN THE CITY OF MANILA

(Stillbirths not included)

BY NATIONALITY

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	4	3	7	26.32
Filipinos.....	652	542	1,194	49.21
Spaniards.....		1	1	6.03
Other Europeans.....	3	2	5	52.32
Chinese.....	27	26	53	34.97
All others.....	4	4	8	43.12
Total and average.....	690	578	1,268	47.86

DEATHS REPORTED IN THE CITY OF MANILA--Continued

BIRTHS BY DISTRICTS

Health districts	Legitimates			Illegitimates			Grand total	Annual birth rates per 1,000
	Male	Female	Total	Male	Female	Total		
No. I, MERIC:								
1. Tondo.....	173	124	297	10	11	21	318	47.63
2. San Nicolas.....	34	35	69	6	3	9	78	32.34
3. Binondo.....	22	22	44	2		2	46	31.56
Total.....	229	181	410	18	14	32	442	41.91
No. II, SAMPALOC:								
4. Santa Cruz.....	93	72	165	6	7	13	178	41.21
5. Qu apo.....	20	21	41	1		1	42	32.02
6. San Miguel.....	7	14	21				21	57.27
7. Sampaloc.....	126	96	222	3	6	9	231	70.37
Total.....	246	203	449	10	13	23	472	50.86
No. III, PACO:								
8. Port Area.....								
9. Intramuros.....	19	20	39		2	2	41	33.90
10. Ermita.....	33	28	61	1	1	2	63	47.21
11. Malate.....	66	51	117	1	1	2	119	87.37
12. Paco.....	31	33	64	1	4	5	69	52.04
13. Pandacan.....	15	7	22	2		2	24	49.53
14. Santa Ana.....	18	20	38				38	68.85
Total.....	182	159	341	5	8	13	354	53.10
Grand total.....	657	543	1,200	33	35	68	1,268	47.86

Attended by physicians, living, 277; stillbirths, 21.

Attended by midwife, living, 195; stillbirths, 1.

Attended by family, living, 796; stillbirths, 26.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	1		1	3.76
Filipinos.....	382	345	727	29.96
Spaniards.....	4	1	5	30.13
Other Europeans.....				
Chinese.....	23	2	25	16.50
All Others.....	2	1	3	16.17
Total and average.....	412	349	761	28.72

TOTAL DEATHS BY SOCIAL CONDITIONS INCLUDING TRANSIENTS

[Stillbirths not included]

Social conditions	Male	Female
Married.....	118	79
Divorced.....		
Widowed.....	34	56
Single.....	331	251
Condition not stated.....	3	1
Total.....	486	387
Grand total.....	873	

Stillbirths.....	48
Number of deaths with medical attendance.....	545
Number of deaths without medical attendance.....	328

DEATHS BY DISTRICTS AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

Health districts	Deaths	Annual death rates per 1,000
No. I, MUNIC:		
1. Tondo.....	266	39.84
2. San Nicolas.....	67	27.78
3. Binondo.....	22	15.10
Total.....	355	36.66
No. II, SAMPALOC:		
4. Santa Cruz.....	94	21.76
5. Quiapo.....	16	12.20
6. San Miguel.....	11	30.00
7. Sampaloc.....	113	34.43
Total.....	234	25.21
No. III, PACO:		
8. Port Area.....	14	11.68
9. Intramuros.....	22	16.49
10. Ermita.....	68	46.26
11. Malate.....	32	24.13
12. Paco.....	15	30.96
13. Pandacan.....	26	47.11
14. Santa Ana.....		
Total.....	172	26.80
Grand total.....	761	28.72

DEAHTS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	132	99	17	8	256
1 year plus.....	56	56	2	2	116
2 years plus.....	30	31	1	3	65
3 years plus.....	13	13	1		27
4 years plus.....	6	3	1		10
5 to 9 years.....	8	14	2	1	25
10 to 14 years.....	3	6	1		10
15 to 19 years.....	10	4	2		16
20 to 24 years.....	18	12	4	1	35
25 to 29 years.....	21	9	4	1	35
30 to 34 years.....	10	5	4	5	24
35 to 39 years.....	19	13	5	5	42
40 to 44 years.....	11	8	3	5	27
45 to 49 years.....	10	13	5	1	29
50 to 54 years.....	6	9	7	1	23
55 to 59 years.....	11	9	1	1	22
60 to 64 years.....	13	9	5	1	28
65 to 69 years.....	11	7	1		19
70 to 74 years.....	8	7	4	1	20
75 to 79 years.....	6	3	1		10
80 to 84 years.....	2	6	2		10
85 to 89 years.....		2			2
90 to 94 years.....	4	7			11
95 to 99 years.....	1	3		1	5
100 years and over.....	2	1	1		4
Age not stated.....	1				1
Total.....	412	349	74	37	872

One female Filipina, age and permanent residence unknown, not included in the above table.

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

(Stillbirths not included)

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													15
5	a. Typhoid fever.			8	7									7
9	a. Malarial fever.			2	5									2
11	Whooping cough.				2									1
	Influenza:													1
	a. With pulmonary complications specified			4	1					3				9
	b. Without pulmonary complications specified			2	2					1				3
14	Asiatic cholera.													2
16	Dysentery:													2
	a. Amoebic.			1	2									3
	b. Bacillary.			5	7							1		12
	c. Unspecified or due to other causes.			2	1									3
21	Erysipelas.													6
22	Acute anterior poliomyelitis.									1				1
23	Lethargic encephalitis.			1	1									2
28	Rabies.													1
29	Tetanus:													1
	a. Umbilical.			2	1									3
	b. Others.			2	47					6	1			56
31	Tuberculosis of the respiratory system.			56	3									110
32	Tuberculosis of the meninges and central nervous system.			3	2									5
33	Tuberculosis of the intestines and peritoneum.			2	2									4
36	Tuberculosis of other organs:													
	c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted)													
	d. Tuberculosis of the genito-urinary system													
37	Disseminated tuberculosis:													
	a. Acute.			1	1							1		3
38	Syphilis.											1		1
41	Purulent infection, septicemia.			1		1								2

99	Bronchitis:	20	10				30
	a. Acute	6	6				12
	b. Chronic						
100	Bronchopneumon a:	31	35	1			67
	a. Bronchopneumon a	1					1
	b. Capillary bronchitis						
101	Pneumon a:	7	3	1			11
	a. Lobar	1					1
102	Pleurisy.	1	1				1
105	Asthma.						2
108-127	VI. Diseases of the digestive system						
111	Ulcer of the stomach and duodenum:	2					2
	a. Ulcer of the stomach	2	1				3
112	Other diseases of the stomach (cancer excepted)	49	52			1	102
113	Diarrhea and enteritis (under 2 years of age)	22	19				42
114	Diarrhea and enteritis (2 years and over)			1			
116	Diseases due to other intestinal parasites:						
	c. Nematodes (other than ancylostoma)	5	4				9
	f. Parasites not specified	1	1				2
117	Appendicitis and typhitis.	1	1				2
118	Hernia, intestinal obstruction:						
	b. Intestinal obstruction		1				1
122	Cirrhosis of the liver:	1					1
	a. Specified as alcoholic	3	1				1
124	Other diseases of the liver.		1				4
126	Diseases of the pancreas		1				1
136	Peritonitis without specified cause.	1	2				8
128-142	VII. Nonvenereal diseases of the genito-urinary system and annexa						
128	Acute nephritis (including unspecified under 10 years of age)	3	4				8
129	Chronic nephritis (including unspecified 10 years and over)	13	12	1			27
131	Other diseases of the kidneys and annexa.	2					2
132	Calculus of the urinary passages.		1				1
137	Cysts and other benign tumors of the ovary		1				1
138	Salpingitis and pelvic abscess (female)		1				1
143-150	VIII. The puerperal state						
	Puerperal hemorrhage		2				2
144	Puerperal septicemia.		2				2
149	Following child-birth (not otherwise defined)		1				1
150-154	IX. Diseases of the skin and of the cellular tissue						
152	Furuncle.	2					2
153	Acute abscess.	4					4
154	Other diseases of the skin and annexa.		2				2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

408

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
159	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included):													
	a. Congenital hydrocephalus.....			1										1
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema.....			24	19									43
161	Premature birth; injury at birth:													
	a. Premature birth (not stillborn).....			4	6									10
162	Other diseases peculiar to early infancy.....			6	2									8
163	Lack of care.....				1									1
164	<i>XIII. Old age</i>													
164	Senility.....			10	13									23
165-203	<i>XIV. External causes</i>													
182	Accidental drowning.....			3	1									4
183	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	b. Streetcar accidents.....				1									1
	c. Automobile accidents.....			1										1
	f. Injuries by other vehicles.....				1					1				1
198	Homicide by cutting or piercing instruments.....													1
204-205	<i>XV. Ill-defined diseases</i>													
205	Cause of death not specified or ill defined:													
	b. Not specified or unknown.....			1										1
	Total.....	1		382	345	4	1			23	2	2	1	761
	Grand total.....	1		727		5				25		3		

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

(Stillbirths not included)

International list num- bers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
5	a. Typhoid fever.....			5										5
11	a. Malarial fever.....			1	2									3
14	Influenza:													
16	b. Without pulmonary complications specified.			3	1									3
29	Asiatic cholera.....													1
	Dysentery:													
	a. Amoebic.....			1										1
	b. Bacillary.....			1								1		2
	c. Unspecified or due to other causes.....			1										1
31	Tetanus:													
	a. Umbilical.....			1										1
	b. Other.....			1	1									2
32	Tuberculosis of the respiratory system.....	1		7	7									16
38	Tuberculosis of the meninges and central nervous system.				1									1
41	Syphilis.....			1										1
	Purulent infection and septicemia.....			1										1
43-49	<i>II. General diseases not included in class I</i>													
44	Cancer and other malignant tumors of the stomach, liver.....			1						1				2
45	Cancer and other malignant tumors of the peritoneum, intestines, rectum.....				1									1
46	Cancer and other malignant tumors of the female genital organs.....				1									1
49	Cancer and other malignant tumors of other or unspecified organs.....													
55	Beriberi.....			1										1
	a. Infants.....			4	3									7

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough					1	1
21. Erysipelas					1	1
23. Lethargic encephalitis					1	1
29. Tetanus:						
a. Umbilical				9	1	10
38. Syphilis					1	1
56. Beriberi:						
a. Infants				9	52	61
56. Rickets					2	2
71. Meningitis:						
a. Simple meningitis					2	2
80. Infantile convulsions					1	1
99. Bronchitis:						
a. Acute					16	16
b. Chronic					3	3
100. Bronchopneumonia:						
a. Bronchopneumonia				1	25	26
b. Capillary bronchitis					1	1
101. Pneumonia:						
a. Lobar					1	1
113. Diarrhea and enteritis				1	58	59
128. Acute nephritis (including unspecified under 1 year of age)					1	1
152. Furuncle					2	2
154. Other diseases of the skin and annexe					3	3
159. Congenital malformations (stillbirths not included):						
a. Congenital hydrocephalus					1	1
160. Congenital debility, icterus, and sclerema	10	2		19	13	44
161. Premature birth; Injury at birth:						
a. Premature birth (not still-born)	5	3		2		10
162. Other diseases peculiar to early infancy	5			3		8
168. Lack of care					1	1
Total	20	5		44	187	256

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	5,273
Number of rats caught by spring traps	645
Number of cagewire traps set	154
Number of rats caught by cagewire traps	0
Number and kind of baits (coconuts)	5,429
Number of poison portions placed	2,928
Number of rats found poisoned	86
Number of rats killed by clubs and other weapons	190
Number of rats found dead from other causes	111
Total number of rats otherwise caught, found dead, or killed	1,032
Total number of rats sent to the laboratory for examination	1,032
Total number of rats found positive for plague	0

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total				
	Male		Female		Male		Female		Male		Female						
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths			
I.	No. 1	6	1	6	1	1	1					7	2	6	1	13	3
	No. 2	2				1						3				3	
	No. 3																
	No. 4	6	1	7	2							6	1	7	2	13	3
II.	No. 5																
	No. 6	1											1		1		1
	No. 7	2	1	3	1							2		3	1	5	1
	No. 8																
III.	No. 9	3	1	1								3	1	1		4	1
	No. 10	2		3	1							2		3	1	5	1
	No. 11	4	1	3	1							4	1	3	1	7	2
	No. 12	2	2	2	1							2	2	2	1	4	3
	No. 13																
	No. 14	1		1											1		2
Transients	11	5	2									11	5	2		18	6
Total	39	12	29	7	2	1						41	13	29	7	70	20

REMARKS:

Total cases reported within the month in the City of Manila	82
Resident cases	66
Nonresident cases	16
Foreign cases	0
Total deaths reported within the month in the City of Manila	20
Deaths among resident cases	15
Deaths among nonresident cases	6
Deaths among foreign cases	0
Total cases confirmed as typhoid fever	69
Cases confirmed as paratyphoid fever	1
By autopsy	0
By blood culture	4
By widal reaction	6
By urine examination	0
By feces examination	1
By clinical symptoms	58
Total cases not confirmed	12

Typhoid carrier—None.

CHOLERA REPORTED DURING THE MONTH OF JULY, 1925, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total			
	Male		Female		Male		Female		Male		Female		Male		Female	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.																
No. 1	2	1							2	1			2	1		
No. 2	1								1				1			
No. 3	1								1				1			
No. 4																
No. 5																
No. 6																
No. 7																
No. 8	2	1							2	1			2	1		
No. 9																
No. 10																
No. 11																
No. 12	1								1				1			
No. 13																
No. 14																
Transients									1				1			
Total	7	3	3	1					7	3	3	1	10	4		

REMARKS:

Total cases reported within the month in the City of Manila	11
Resident cases	10
Nonresident cases	1
Foreign cases	0
Resident cases not confirmed as cholera	1
Nonresident cases not confirmed as cholera	0
Total deaths reported within the month in the City of Manila	4
Deaths among resident cases confirmed as cholera	3
Deaths among nonresident cases not confirmed as cholera	0
Deaths among nonresident cases confirmed as cholera	1

Cholera carriers—48.

DIPHtheria REPORTED DURING THE MONTH OF JULY, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total					
	Male			Female			Male			Female			Male			Female			Male			Female		
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths	
I.....	No. 1.....																							
	No. 2.....																							
	No. 3.....																							
	No. 4.....																							
II.....	No. 5.....																							
	No. 6.....																							
	No. 7.....																							
	No. 8.....																							
	No. 9.....																							
	No. 10.....	1											1										1	
III.....	No. 11.....																							
	No. 12.....																							
	No. 13.....																							
	No. 14.....	2											2										2	
	Transients.....	3											3										3	
	Total.....																							

REMARKS:

Total cases reported within the month in the City of Manila.....

7

Resident cases.....

Non-resident cases.....

5

Resident cases not confirmed as diphtheria.....

Non-resident cases not confirmed as diphtheria.....

Total deaths reported within the month in the City of Manila.....

0

Deaths among resident cases confirmed as diphtheria.....

Deaths among resident cases not confirmed as diphtheria.....

0

Deaths among non-resident cases confirmed as diphtheria.....

0

Diphtheria carrier—1.

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF JULY, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	12	6	2	5
Varicella.....	3	4		
Varioloid.....				
Smallpox.....				
Measles.....		2		
Whooping cough.....		2		2
Influenza.....	27	10	7	3
Bubonic plague.....				
Encephalitis lethargica.....	2	1	1	1
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	127	84	62	48
Tuberculosis of all forms.....	6	8	6	7
Beriberi, infantile.....	34	20	34	20
Beriberi, adult.....	2	1	2	1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	9	4	1	2
Varicella.....				
Varioloid.....				
Smallpox.....				
Measles.....				
Whooping cough.....				
Influenza.....	5	2	3	
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	21	13	8	7
Tuberculosis of all forms.....		1		1
Beriberi, infantile.....	4	3	4	3
Beriberi, adult.....				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF JULY, 1925**

Sera and vaccines	On hand July 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Antidiphtheric serum (unit).....	900,000		900,000	330,000	570,000
Antidyenteric serum (ampoules).....	88	300	388	274	114
Antitetanic serum (unit).....	1,000,000	169,000	1,169,000	369,000	800,000
Cholera serum (ampoule).....		4	4	4	
Cholera vaccine (c. c.).....	480	77,270	77,700	62,640	15,060
Dried vaccine virus (unit).....	41,400	103,000	144,400	92,400	52,000
Fresh vaccine virus (unit).....	37,300	200,000	237,300	222,100	15,200
Gonococcus vaccine (ampoule).....		100	100	100	
Mixed cholera-typhoid vaccine (c. c.).....	17,910	125,280	143,190	128,160	15,030
Normal horse serum (ampoule).....					
Streptococcus vaccine (ampoule).....					
Typhoid vaccine (c. c.).....	6,640	15,590	22,230	13,560	8,570

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JULY, 1925

Health districts	Municipal districts	Vaccinations				Inspection of persons vaccinated						Total	
		Total vaccinations	Previously vaccinated		Under 1 year	1 to 4 years					5 years and over		
			Never	Successful		Positive	Negative	Positive	Negative				
										Unsuccessful			
No. 1.	Tondo.....	1,010	168	835	7	141	9	12		5		158	9
	San Nicolas.....	665	145	513	7	128	2					128	2
	Binondo.....	1,198	167	1,025	6	129	9					129	9
	Santa Cruz.....	1,395	106	1,277	12	75	6	35	4	37	29	147	39
	Quiapo.....	59	57		2	47	2					47	2
No. 2.	San Miguel.....	42	41		1	48	1	2	1			50	2
	Sampaloc.....	323	118	196	9	113	4	2	4	2		117	8
	Port Area.....												
	Intramuros.....	56	50		6	47	6					47	6
	Ermita.....	26	25		1	29	2					29	2
No. 3.	Malate.....	774	43	725	6	63	7					63	7
	Paco.....	526	73	444	9	66	11	4	1	9	25	79	37
	Pandacan.....	359	36	315	8	37	4	1		19	138	57	142
	Santa Ana.....	961	43	906	12	29	6	2	1	3		34	7
	Total.....	7,394	1,072	6,236	86	952	69	58	11	75	192	1,085	272

Vaccine virus:

Received	18,000
Used	13,360
Remained	4,660

ANTITYPHOID AND ANTICHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING JULY, 1925

Health districts	Municipal districts	Number of injections made in —										Total number of injections					
		Adults					Children										
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1....	Tondo.....	840	111	597	11	522	12	270	44	178	10	114	6	1,110	155	775	21
	San Nicolas.....	657	1,518	569	938	303	1,065	621	40	183	23	105	9	1,278	1,558	752	961
	Binondo.....	482	27	226	143	89	2	147	36	93	3	50	4	629	63	319	146
	Santa Cruz.....	799	104	32	742	15	530	112	50	45	102	38	73	911	154	77	844
	Quiapo.....	102	855	22	737	16	625	184	341	71	442	48	278	286	1,196	93	1,179
No. 2....	San Miguel.....	135	265	74	187	243	206	46	56	38	25	24	22	181	320	112	212
	Sampaloc.....	507	884	376	939	218	754	439	410	303	529	137	270	946	1,294	679	1,468
	Port Area.....																
	Intramuros.....		540		631	8	509	76	374	14	536	10	398	76	914	14	1,167
	Ermita.....		164		202		164	64	190	11	326		177	64	354	11	528
No. 3....	Malate.....		174		95		120		102		22		63		276		117
	Paco.....		418		399		398	247	186	86	152	101	144	750	604	224	551
	Pandacan.....		20		52		22	16	19	40	44	10	13	36	70	92	79
	Santa Ana.....		57		145		226	43	19	53	20	39	82	100	210	118	165
	Total..	4,102	5,302	2,151	5,204	1,583	4,633	2,265	1,866	1,115	2,234	676	1,489	6,367	7,168	3,266	7,438
6,122																	

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V, in persons never vaccinated before; R, revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	10,803	1,837	6,273	2,693
Agusan.....	898	461	74	363
Albay.....	22,390	6,042	6,202	10,146
Antique.....	2,449	1,362	552	535
Batanes.....	8,748	207	232	309
Bataan.....	20,907	6,796	3,831	10,280
Batangas.....	112,328	22,102	60,896	29,380
Bohol.....	112,629	20,398	84,416	7,815
Bulacan.....	16,522	4,098	5,088	7,341
Cagayan.....	4,814	1,360	1,273	1,681
Camarines Norte.....	87,806	11,181	57,843	18,282
Camarines Sur.....	55,892	18,058	29,512	8,322
Capiz.....	6,002	1,728	1,009	3,265
Catanduanes.....	21,758	3,682	11,780	6,346
Cavite.....	64,062	19,488	15,480	29,094
Cebu.....	7,129	2,236	1,873	3,020
Cotabato.....	328	27	220	81
Culion Leper Colony.....	3,351	1,157	871	1,323
Davao.....	9,050	2,750	1,829	4,471
Ilocos Norte.....	50,110	8,728	27,887	14,045
Ilocos Sur.....	28,087	15,006	3,242	9,789
Iloilo.....	8,004	2,836	3,172	2,496
Isabela.....	17,627	6,184	4,670	6,773
Laguna.....	3,949	1,266	1,680	1,053
Lanao.....	68,014	5,839	46,434	10,741
La Union.....	48,807	17,638	6,263	20,006
Leyte.....	5,106	1,161	1,779	2,166
Marinduque.....	4,063	1,351	1,044	1,638
Masbate.....	4,172	958	1,050	2,164
Mindoro.....	40,268	12,917	20,101	7,250
Mountain Province.....	7,798	2,136	3,176	2,486
Nueva Ecija.....	19,179	7,289	4,682	7,208
Nueva Vizcaya.....	5,380	621	2,518	2,246
Occidental Negros.....	14,276	7,570	2,843	4,363
Oriental Negros.....	13,390	3,455	4,528	5,207
Palawan.....	20,407	5,614	9,507	5,286
Pampanga.....	16,628	3,921	5,288	7,419
Pangasinan.....	39,992	14,299	3,706	21,987
Rizal.....	20,935	5,484	10,704	4,747
Romblon.....	4,496	1,994	858	1,644
Samar.....	91,757	14,883	49,826	27,048
Sorsogon.....	7,960	2,476	2,962	2,522
Sulu.....	13,345	5,781	3,730	3,834
Surigao.....	22,476	6,921	6,217	9,332
Tarlac.....	11,643	2,840	6,224	2,579
Tayabas.....	18,401	5,867	4,851	7,683
Zambales.....	4,890	1,184	2,033	1,673
Zamboanga.....	12,811	3,735	3,804	5,272
Total.....	1,181,004	296,689	536,122	348,193

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspections of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
Abra	284	160	779	712	501	649	1,564	1,521
Agusan	184	87	74	47	56	13	314	147
Albay	1,994	847	1,990	864	4,160	2,932	8,144	4,843
Antique	299	47	542	112	406	161	1,247	320
Batanes	90	19	204	52	326	36	620	107
Bataan	1,283	214	2,130	1,183	1,948	1,140	5,361	2,537
Batangas	2,936	464	4,643	1,854	4,891	3,547	12,470	5,365
Bohol	3,359	609	13,443	2,835	39,397	29,569	56,199	33,013
Bulacan	5,944	510	12,416	2,370	33,659	28,328	52,019	31,208
Cagayan	1,622	306	8,432	800	5,742	2,978	10,796	4,084
Camarines Norte	786	187	881	250	1,272	443	2,939	880
Camarines Sur	2,777	415	8,074	1,630	34,464	13,828	45,315	15,873
Capiz	943	642	7,620	1,386	19,570	5,057	31,133	7,085
Catanduanes	732	366	905	374	638	475	2,275	1,215
Cavite	2,214	468	3,727	1,103	8,781	5,372	14,722	6,943
Cebu	5,719	2,855	8,145	2,727	10,289	9,593	24,153	14,675
Cotabato	169	129	500	428	1,413	1,559	2,082	2,116
Culion Leper Colony	19	6	8	3	173	119	200	126
Dayao	193	71	553	256	1,510	750	2,256	1,077
Ilocos Norte	1,207	173	2,303	448	2,276	1,826	5,786	2,447
Ilocos Sur	4,427	1,053	9,571	3,100	18,969	9,268	32,967	13,421
Iloilo	4,405	447	6,929	1,201	5,396	2,491	16,730	4,189
Isabela	316	142	1,156	527	2,293	1,811	3,767	2,480
Laguna	2,732	819	2,767	1,198	3,715	4,926	9,214	6,943
Lanao	575	73	584	177	673	275	1,832	525
La Union	2,205	318	6,281	2,775	18,426	15,198	26,912	18,291
Leyte	4,294	1,345	5,893	2,308	9,939	5,076	20,126	8,729
Marinduque	446	141	620	202	1,451	702	2,517	1,045
Masbate	298	150	528	227	626	576	1,452	953
Mindoro	292	88	630	294	1,150	853	2,072	1,235
Misamis	1,248	555	4,467	1,859	11,736	4,339	17,451	6,253
Mountain Province	273	42	802	264	2,021	1,131	3,096	1,437
Nueva Ecija	2,965	853	4,423	1,616	3,681	3,064	11,069	5,533
Nueva Vizcaya	342	23	782	348	2,232	1,502	3,856	1,873
Occidental Negros	2,904	661	2,737	856	2,414	883	8,055	2,400
Oriental Negros	1,577	531	2,417	1,038	3,387	1,791	7,381	3,860
Palawan	385	28	1,528	144	6,244	4,405	8,107	4,577
Pampanga	1,563	352	1,418	544	2,326	3,215	6,307	4,111
Pangasinan	6,911	1,563	8,953	2,702	7,978	6,109	23,842	10,374
Rizal	2,907	726	2,930	1,363	4,110	5,542	9,947	7,631
Romblon	599	106	1,018	231	1,389	670	2,956	1,007
Samar	2,321	710	8,735	3,358	30,551	12,887	41,607	16,955
Sorsogon	842	239	1,383	699	1,623	1,275	3,848	2,213
Sulu	588	269	2,368	928	3,985	1,780	6,936	2,927
Surigao	1,073	331	2,668	716	6,319	2,663	10,060	3,710
Tarlac	1,838	299	1,765	893	2,377	3,040	5,480	4,232
Tayabas	1,687	463	3,028	926	6,157	3,166	10,872	4,555
Zambales	572	188	663	382	1,272	1,479	2,507	1,999
Zamboanga	397	636	1,178	1,055	1,767	2,474	3,812	4,165
Total	86,683	21,176	160,591	50,365	386,599	210,916	583,873	282,457

**CONSOLIDATED REPORTS OF ANTICHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925***

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan						
Albay	2,691	1,053	532	358		
Antique						
Bataan						
Batanes						
Batangas	15	11				
Bohol						
Bukidnon						
Bulacan	781	623				
Cagayan						
Camarines Norte						
Camarines Sur						
Capiz						
Catanduanes	2	65	2	88		
Cebu	568	666	10	18		
Cotabato						
Davao	16	36				
Ilocos Norte						
Ilocos Sur						
Iloilo						
Isabela						
Laguna						
Lanao						
La Union						
Leyte						
Marinduque						
Masbate						
Mindoro						
Misamis						
Mountain Province						
Nueva Ecija						
Nueva Vizcaya						
Occidental Negros						
Oriental Negros						
Pampanga						
Pangasinan	101	88	57	37		
Rizal						
Samar						
Sulu						
Surigao						
Tarlac						
Tayabas						
Zambales						
Total	4,174	2,542	601	501		

* Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Agusan									
Albay	2,028	1,030	650	387			6,802	1,927	
Antique									
Bataan									
Batanes									
Batangas	26	4					56		
Bohol									
Bukidnon									
Bulacan	653	466					2,523		
Cagayan									
Camarines Norte									
Camarines Sur									
Capiz									
Catanduanes	1	56	1	68			124	169	
Cebu	400	653	8	21			2,287	57	
Cotabato									
Davao	6	20					78		
Ilocos Norte									
Ilocos Sur									
Iloilo									
Isabela									
Laguna									
Lanao									
La Union									
Leyte									
Marinduque									
Masbate									
Mindoro									
Misamis									
Mountain Province									
Nueva Ecija									
Nueva Vizcaya									
Occidental Negros									
Oriental Negros									
Pampanga									
Pangasinan	77	112	37	54			378	185	
Rizal									
Samar									
Sulu									
Surigao									
Tarlac									
Tayabas									
Zambales									
Total	3,191	2,341	696	530			12,248	2,328	

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan.....						
Albay.....						
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	725	106	503	114	38	1
Bohol.....						
Bukidnon.....						
Bulacan.....	412	175	362	138	275	96
Cagayan.....						
Camarines Norte.....						
Camarines Sur.....						
Capiz.....						
Catanduanes.....						
Cebu.....	64	72	1	1		
Cotabato.....						
Davao.....						
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....	50	30	18	6	16	6
Isabela.....						
Laguna.....	15	17	4	9	7	1
Lanao.....						
La Union.....						
Leyte.....	12	37	9	6		
Marinduque.....						
Masbate.....						
Mindoro.....						
Misamis.....						
Mountain Province.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Pampanga.....						
Pangasinan.....	368	298	218	163	125	124
Rizal.....	121	29	61	12	50	11
Samar.....						
Sulu.....						
Surigao.....						
Tarlac.....	65	1	54	1	26	1
Tayabas.....						
Zambales.....						
Total.....	1,832	765	1,230	450	537	243

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Agusan									
Albay									
Antique									
Bataan									
Batanes									
Batangas	555	176	394	139	37	1	1,562	1,150	77
Bohol									
Bukidnon									
Bulacan	471	203	386	153	313	100	1,261	1,039	784
Cagayan									
Camarines Norte									
Camarines Sur									
Capiz									
Catanduanes									
Cebu	90	54					280	2	
Cotabato									
Davao									
Ilocos Norte									
Ilocos Sur									
Iloilo	74	16	36	2	44	2	170	62	68
Isabela									
Laguna	16	8	2	8	4	9	56	23	24
Lanao									
La Union									
Leyte	41	28	25	16			118	56	
Marinduque									
Masbate									
Mindoro									
Misamis									
Mountain Province									
Nueva Ecija									
Nueva Viscaya									
Occidental Negros									
Oriental Negros									
Pampanga									
Pangasinan	376	311	251	157	206	98	1,353	789	553
Rizal	83	28	45	18	49	15	261	186	125
Samar									
Sulu									
Surigao									
Tarlac	3	3	3	3	2	3	72	61	32
Tayabas									
Zambales									
Total	1,709	827	1,142	496	655	228	5,133	3,318	1,663

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Agusan						
Albay	27	7	20	2		
Antique	344	687	122	255		
Bataan	722	257	265	91		
Batanes	142	20	9			
Batangas	123	27	101	21		
Bohol	218	54	153	54		
Bukidnon						
Bulacan	710	333	578	279		
Cagayan	247	125	64	70		
Camarines Norte	292	37	74	13		
Camarines Sur	1,049	397	788	283		
Capiz	171	98	94	42		
Catanduanes						
Cebu	2,374	1,691	675	367		
Cotabato	196	19	8			
Davao	30		2			
Ilocos Norte	683	307	244	314		
Ilocos Sur	717	328	541	242		
Iloilo	330	206	217	128		
Isabela						
Laguna	1,304	621	664	422		
Lanao						
La Union	1,007	247	206	277		
Leyte	335	152	331	98		
Marinduque	574	637	383	395		
Masbate	140	313	67			
Mindoro	27	3	16	1		
Misamis	204	51	101	8		
Mountain Province	244	196				
Nueva Ecija	648	172	284	231		
Nueva Vizcaya	238	289	213	268		
Occidental Negros	1,028	317	714	345		
Oriental Negros	331	156	48	95		
Pampanga	6,449	5,523	4,564	4,380		
Pangasinan	3,962	2,800	3,091	2,253		
Risal	4,084	918	1,179	337		
Samar	171	160	82	88		
Sulu	38	3	25	2		
Surigao						
Tarlac	304	193	125	57		
Tayabas	675	170	351	95		
Zambales	310	387	277	344		
Total	30,443	17,901	16,676	11,857		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Agusan.....									
Albay.....	46	6	18				86	40	
Antique.....	271	610	151	216			1,912	744	
Bataan.....	508	174	199	54			1,661	609	
Batanes.....	55	17					284	9	
Batangas.....	118	23	110	14			291	246	
Bohol.....	205	124	128	103			601	438	
Bukidnon.....									
Bulacan.....	755	825	596	261			2,123	1,714	
Cagayan.....	109	122	85	69			603	238	
Camarines Norte.....	176	39	47	7			544	141	
Camarines Sur.....	679	304	521	222			2,429	1,814	
Capiz.....	143	79	74	39			491	249	
Catanduanes.....									
Cebu.....	2,001	1,228	534	266			7,294	1,842	
Cotabato.....	55	16	1				286	9	
Davao.....	12						42	2	
Ilocos Norte.....	704	306	310	298			2,000	1,166	
Ilocos Sur.....	514	287	347	219			1,846	1,349	
Iloilo.....	309	183	233	105			1,028	683	
Isabela.....									
Laguna.....	1,404	532	792	472			3,861	2,350	
Lanao.....									
La Union.....	759	193	110	199			2,206	792	
Leyte.....	527	130	455	79			1,144	968	
Marinduque.....	463	614	255	409			2,288	1,442	
Masbate.....	87	178	33				718	100	
Mindoro.....	17	6	10	4			53	31	
Misamis.....	116	48	46	5			419	160	
Mountain Province.....	129	197					766		
Nueva Ecija.....	258	122	226	197			1,200	938	
Nueva Vizcaya.....	122	292	98	277			941	856	
Occidental Negros.....	615	471	425	456			2,431	1,940	
Oriental Negros.....	216	138	43	89			841	275	
Pampanga.....	7,086	4,655	4,877	3,558			23,713	17,379	
Pangasinan.....	3,852	2,526	3,160	2,035			13,140	10,539	
Rizal.....	4,508	760	1,646	377			10,265	8,539	
Samar.....	97	132	55	72			560	297	
Sulu.....	14	4	12	2			54	41	
Surigao.....									
Tarlac.....	186	125	60	53			758	295	
Tayabas.....	439	45	196	15			1,329	657	
Zambales.....	244	331	224	300			1,272	1,145	
Total.....	27,744	15,342	16,027	10,472			91,430	55,032	

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF JULY, 1925**

(No case and no death reported during the month)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF
JULY, 1925**

Provinces and towns	Cases	Deaths
Bulacan:		
Bustos.....	1	1
Malolos.....	1	0
Quingua.....	1	1
Camarines Sur:		
Tigaon.....	1	0
Leyte:		
Tacloban.....	1	1
Total.....	5	3

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF JULY, 1925**

	Health districts—			
	No. 1	No. 2	No. 3	Total
	Meisic	Sampaloc	Paco	
Orders pending July 1, 1925:				
Minor.....	125	77	78	280
Sewer.....	27	57	7	91
Vacating.....	9	14	11	34
Filling.....	10	24	7	41
Total.....	171	172	103	446
Orders issued during the month:				
Minor.....	18	14	11	38
Sewer.....				
Vacating.....		1		1
Filling.....			3	3
Total.....	18	15	14	42
Orders completed during the month:				
Minor.....	17	12	8	37
Sewer.....	1		1	2
Vacating.....			5	5
Filling.....				
Total.....	18	12	14	44
Orders cancelled during the month:				
Minor.....	1			1
Sewer.....				
Vacating.....				
Filling.....				
Total.....	1			1
Orders pending July 31, 1925:				
Minor.....	120	79	81	280
Sewer.....	26	57	6	89
Vacating.....	9	15	6	30
Filling.....	10	24	10	44
Total.....	165	175	103	443
Strong material plans approved:				
New buildings including additions and alterations.....	26	51	30	107
Permits for minor building construction:				
Approved.....	21	44	30	95
Disapproved.....	10	9	4	23
New buildings completed.....	4	31	25	60
Permits for light and mixed material constructions:				
Approved.....	42	17	44	103
Disapproved.....	10	2	10	22
Prosecutions:				
Convictions.....				
Dismissals.....	1	5		6
Amount of fines.....				
Plumbing permits issued.....	58	82	65	205
Plumbing projects completed.....	41	78	54	173
Premises connected to the Sanitary Sewer to June 30, 1925	2,425	4,112	486	7,023
Connected during the month.....	3	13	5	21
Total.....	2,428	4,125	491	7,044

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

AUGUST, 1925

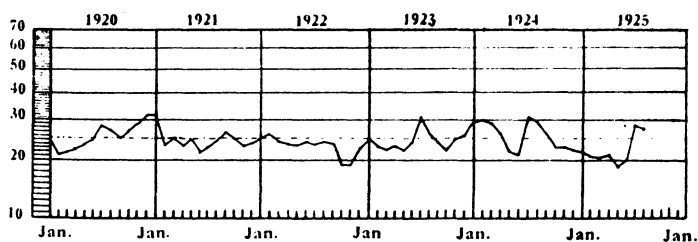
No. 8

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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No. 8

THE PROBLEM OF LEPROSY CONTROL IN
THE PHILIPPINES

By the CULION MEDICAL BOARD¹

Culion Leper Colony
Philippine Health Service

Since the inauguration of a policy of segregation of all bacteriologically positive lepers in the Philippines, the system has met with some opposition, which has, strangely enough, increased within the past few years, during which the lot of the leper has been made far less unhappy and more hopeful than ever before. The purpose of the present paper is to review briefly the question of whether the continuation of compulsory segregation is necessary or expedient in the Philippines, and to point out what directions of future improvement are most in accord with present day knowledge of the problem.

The fundamental reason for the compulsory segregation of bacteriologically positive lepers is that this is the only method available at present for effectively preventing the spread of the disease. From the many studies² which have been made by various investigators, the essential way in which leprosy is transmitted is quite evident, namely, that the large majority of lepers have contracted the disease by the direct or indirect personal contact with other lepers with whom they have lived in the same house for a considerable period of time.

Such studies have also shown that a high percentage of adults thus exposed do not contract leprosy, but show themselves resist-

¹ Jose Rodriguez, Acting Chief Physician, Chairman; Sulpicio Chiyuto, Chief, Culion Leper Colony, succeeding Jose Avellana Basa; H. W. Wade, Chief Pathologist; G. A. Perkins, Chief Chemist.

² Cf. especially Rogers and Muir, *Leprosy*, Bristol, 1925.

ant to it. Children are much less resistant and often contract the disease from their parents, which fact, together with other peculiarities of leprosy, such as its long period of incubation, has given rise to the erroneous belief among the less well informed that heredity or pre-natal infection plays a large part in the transmission of the disease. Many who stress the fact that certain exposed individuals prove to be resistant to leprosy do not appear to realize that the same can be said of practically all infectious diseases.

The important fact to be faced is that, while most adults appear to be resistant to leprosy, a certain percentage of adults, and a much larger percentage of children, are found to be susceptible to this disease, and we have no means of knowing whether a given individual will prove resistant or not. On the contrary, we have every reason to believe that an individual may be at least comparatively resistant at one time and susceptible at another.

It is further unfortunate from a public health standpoint that the organism of leprosy is disseminated from lepers so generally—from various parts of the body and in practically all recognizable stages of the disease that there is no available means of protecting nonleper members of the leper's household, or even the outside public, from insemination by the organism of leprosy except segregation of all cases of leprosy in which the bacillus can be found at or near the surface.

Segregation, then, is the only means of preventing the spread of leprosy in the immediate present, and only one other measure offers hope for the future. It is obvious that *curing* a leper affords protection to the public equal to that gained by segregating him and this alternative has also obvious advantages, not only for the leper, but also for the Government.

An important question for public policy is what the results would be of immediate abandonment of efforts at segregation in favor of efforts to cure all lepers by the public clinic method. Would such efforts have a sufficiently rapid effect so that the spread of the disease from the cases remaining at large while they were undergoing treatment could be disregarded? Unfortunately, as any one familiar with the nature of present limitations of leprosy treatment knows, the answer is decidedly in the negative. Although recent encouraging progress certainly points out such a solution of the leprosy problem as an attractive goal for the future, it is not yet possible. The

present known treatments require medical attendance over a period of many months, and even years. To give reasonable assurance against recurrence this must be extended about two years beyond the disappearance of outward manifestations of the disease. Further, it is only among the earlier cases that cure can be expected in a large majority of the patients treated by present methods.

It would be, of course, possible to abandon entirely the present efforts at the effective control of leprosy in the Philippines, placing the sanitary status of these Islands in this respect more nearly on a level with that in other Oriental countries where civilized hygiene is less developed. There is no doubt that this would be a backward step, although some have attempted to justify it on the grounds that an inordinate amount of money is now being spent on a disease affecting relatively few people. Two points appeal to us most forcibly in this connection. First, the leper problem is forced upon the Government. Due to the peculiar mutilating, rather than fatal, nature of the disease, and due to the widespread popular horror of lepers in the advanced stages, a pitiable pauper class is the eventual result, so that the Government would be forced to bear at least the heavy expense of maintaining these or undergo the stigma of lepers begging in public places. Conversely, the problems of malaria and tuberculosis are not forced upon the Government in the same degree, since sufferers from these diseases are tolerated by their fellow workers while they remain active and are usually cared for by relatives when they are incapacitated. Furthermore, the Government could not possibly assume the responsibility for the direct control of such widespread diseases, but can at best act only indirectly, by promoting the economic welfare of communities and individuals and in educating, encouraging, and helping these to carry out a program of control and eradication.

Another appeal for the abandonment of compulsory segregation is based on the sufferings of the segregated leper. A true perspective can be gained only by comparing the deprivations of the Government-segregated leper with the sufferings and stigma endured by the average leper who is finally outcast by his associates and even his family, in countries when the Government does not segregate, as formerly in the Philippines. However, everyone must recognize that the Government is under moral obligation to segregate lepers not to treat them as if they

were criminals, but to afford them as far as possible a normal happy life and the determined efforts of medical science to combat their disease.

Undoubtedly there is a minority of lepers at Culion who wish to return to their homes. On the whole, however, they are, and have good reason to be, contented with their present life. It has been the unfortunate experience of many ex-inmates who have been discharged as negative that they were not well received in their home towns, and a number of these have begged to be (and some have been) allowed to return to Culion.

All things considered, it seems to us not only that compulsory segregation of lepers is justifiable at present in the Philippines, but that it is absolutely necessary in order to maintain the high standards adopted in our public health efforts. In view of the relatively high expense, however, which is inevitable in any system of segregation of the victims of a chronic disease, as compared to the usual public health methods, and further of the fact that our system as operated in the past has not proved rapidly effective in reducing the number to be segregated, we do not consider the present system as satisfactory for indefinite continuance.

Among proposed modifications of the present system of segregation, a partial segregation system, such as has shown a degree of success in Norway, has been often considered. Undoubtedly a small percentage of Philippine lepers are financially able to isolate themselves in separate rooms and avoid much contact with the public. So far it has not been found practicable to extend partial freedom to this class. Aside from the difficulty of supervision, such a step would introduce not much change in the problem as a whole, because the great majority of lepers are unable economically to fulfill the requirements of such a system of segregation. An important point is that the primarily neural type of leprosy, which disseminates relatively very few bacilli, is rare in the Philippines as compared with India and other countries.

Another often proposed modification is that a number of small colonies, asylums, or stations be substituted for Culion. The Government has formerly opposed this, principally on economic grounds, but the suggestion has many points in its favor, some of which have become much more important with the developments of leprosy therapy in recent years, so that the Health Service has adopted a compromise program, which

seems to meet the situation in the best practicable way. Although the development of this program has been slow on account of lack of funds, its essential features and advantages should be outlined here.

The present plan involves the establishment of treatment stations in a number of centers throughout the Philippines, perhaps eventually in one-third of the provincial capitals, so distributed that one or another will be easily accessible to all districts where leprosy is found. Small beginnings have been made in Manila and Cebu. These stations will be of the sanitarium rather than the colony type, because the former type of institution is more suitable for intensive treatment and adequate control, including separation of the sexes, and also because of the prohibitive cost of establishing and maintaining a number of colonies. It is anticipated that these stations will *gradually* take the place of Culion Leper Colony. Not immediately, because some years will be required at best to establish the regional treatment stations and because at least half of the present inmates of Culion are better cared for here than they could possibly be in such stations. Furthermore, whenever the treatment is not found to be effective after a fair trial, or is found to be contraindicated, as by tuberculosis or nephritis, in individual cases, it is planned to transfer such patients to Culion. The Colony holds a hope for many years of comparatively normal and not unhappy life even for cases of leprosy which from the medical point of view must be considered hopeless. Hospital life for this type of case, on the other hand, means patient endurance awaiting release by death. It seems at present entirely impracticable to establish colonies for the hopeless cases in connection with the treatment stations, and such a policy would further be undesirable because of the importance of maintaining the best possible morale among the hopeful cases by surrounding them only with other hopeful cases. Thus the plan which has been officially adopted, while involving a gradual diminution of Culion Leper Colony, does contemplate its complete abandonment until the number of hopeless cases eventually becomes negligible.

An important part of the treatment station plan is the provision for treatment, without segregation, of non-infectious lepers. Among these are included the "paroled negative," that is, patients who as a result of treatment have been apparently cured and have shown no signs of activity of the disease for

six months. Such patients are allowed to return to their homes, but are required to report for treatment regularly during a further period of eighteen months to insure them against a recrudescence of the disease. The treatment in public clinics of persons infected with leprosy before they have become bacteriologically positive is also contemplated. The solution of this important part of the problem depends largely upon finding and properly diagnosing such cases. Recommendations as to the means for accomplishing this have recently been made the Philippine Leprosy Research Board. The measures recommended are, briefly, the systemization of antileprosy work in connection with the public dispensaries, the training of personnel in this work in the recognition of the earliest clinical manifestations of leprosy, and the development, if possible, of laboratory tests applicable to this stage of the disease.

The chief difficulty in the establishment of regional treatment stations is the first cost. It is obvious that until after some of these have been actually put in operation no reduction of the expenses in Culion can be looked for as a result of this plan. If, however, sufficient funds additional to the present annual expenses can be found to establish adequate treatment stations at Manila and Cebu, the effect on the financial stringency at Culion will become noticeable soon after their establishment. At least it would be no longer necessary to care at Culion for large numbers of incoming lepers from these regions. Whether a substantial number of hopeful cases could be sent from Culion to Manila or Cebu seems more doubtful, as any practicable capacity of these institutions would probably be taxed to accommodate early cases who would be stimulated to volunteer.

For a few years, therefore, the new system involves additional expense. To obtain necessary funds by cutting down on the hardly adequate food supply or medical attention now accorded to the lepers at Culion would obviously be a violation of the Government's obligation toward these unfortunates.

For the future, on the other hand, the proposed system is much more hopeful than the present one. Anyone in touch with the situation known that it is looked forward to with great enthusiasm by the lepers, except the great numbers for whom Culion has now become a real and only home. Even some of the latter do not realize what disillusionment would be their lot were they able now to return to their former home towns.

It is well recognized that from the humanitarian and medical standpoints the proposed system is a definite advance. Since the difficulty in its accomplishment is a financial one, however, the important feature is its promise for a reduction, in the not distant future, of the present objectionable cost of dealing with the leprosy problem. In this respect it has the main advantage that it will attract, as has been proved already, earlier cases than are being segregated under the present system. The attraction of earlier cases must necessarily reduce the spread of leprosy and thereby the total number of cases to be dealt with. Much more important is the fact that renders the treatment so much more effective, as has already been found at San Lazaro and Cebu, that the average length of time during which the Government must care for and treat the lepers is greatly reduced. Further reduction of the period of Government support is effected by the policy of parole six months after disappearance of outward manifestations of the disease. Incipient lepers treated for a short time and then paroled near their former homes usually can find support by their own efforts or those of their friends, although it has been found that the more advanced lepers, after becoming negative by long treatment at Culion, are often no longer able to find support in Manila or Cebu, even if they formerly lived in these towns, and that such cases prefer to remain during their two-year negative period or even longer, at Culion, supported by the Government.

It is difficult at present to make definite predictions. The present system has not been as rapidly successful as was hoped. But the comparatively short average duration of the disease in cases as now found contrasted with the advanced condition of the lepers segregated in former years shows that leprosy is gradually being reduced in the Philippines. If now a start can be made by the establishment of stations at the two large centers, Manila and Cebu, the prospects for a rapid diminution in the incidence are certainly all the more encouraging.

The proposed system depends not on segregation, but on segregation and treatment. If the present advances in the treatment of leprosy continue to a point where the length of treatment necessary to cure patients or to make them no longer disseminators of the disease becomes sufficiently reduced, and if such treatment can be made effective in a sufficiently high percentage of cases, the time will then have come when treatment can completely supersede segregation as a preventive measure in the leprosy problem.

EDUCATIONAL ANTI-CHOLERA CAMPAIGN IN MANILA

By TEOFILO CORPUS

Medical Inspector, Philippine Health Service

The cholera epidemic occurred in Manila during the months of September and October of this year. During this period, a thorough campaign for the prevention and suppression of the disease was undertaken, one phase being the educational side of this work, which will only be treated in this treatise.

During the epidemic, health conferences on cholera prevention were given and healthmobile demonstrations were exhibited in places where cholera cases have occurred. During the first part of each week, a program of places of conferences was usually prepared covering all days of the week including Sundays, and this was published in the local newspapers for the information of the general public. This gave the people an opportunity to know the program beforehand.

The following places in the city were covered up by the conferences and healthmobile demonstrations:

- September 26—Plaza Guipit, Sampaloc.
- September 27—Junction of Maria Clara and Trabajo Streets, Sampaloc.
- September 28—Junction of Economia and Firmeza Streets, Sampaloc.
- September 29—Junction of Honradez and Trabajo Streets, Sampaloc.
- September 30—Junction of Sta. Mesa and Reposo Streets, Sta. Mesa.
- October 1—Junction of Tayuman and Misericordia Streets, Santa Cruz.
- October 2—Junction of O'Donnell and Mayhaligue Streets, Santa Cruz.
- October 3—Junction of Moriones and Sande Streets, Tondo.
- October 4—Junction of Yangco and Baltazar Streets, Tondo.
- October 5—Junction of Zaragoza and Bilbao Streets, Tondo.
- October 6—Junction of Juan Luna and Gagalañgin Streets, Tondo.
- October 9—Junction of Constancia and Laong-laan Streets, Sampaloc.
- October 10—Junction of Dart and Anak ng Bayan Streets, Paco.
- October 11—Junction of Perdigon and Peñafrancia, Paco.
- October 12—Junction of Juan Luna and Tayabas Streets, Tondo.
- October 13—Junction of Juan Luna and Bulacan Streets, Tondo.
- October 14—Junction of Gerona and Yangco Streets, Tondo.
- October 15—Junction of Clavel and Asuncion Streets, San Nicolas.
- October 16—Junction of Peñarrubia and Del Pan Streets, San Nicolas.
- October 17—Junction of Industria and Central Streets, Pandacan.
- October 18—Junction of Castro and Agno Streets, Malate.

This schedule has been somewhat interrupted due to bad weather, and when the conferences could not be given, the public was duly informed accordingly thru the press. Those that were given were attended by about 20,000 people to whom about 15,000 health leaflets on cholera prevention in Spanish and Tagalog were freely distributed. These conferences and healthmobile demonstrations were given at 7 p. m. every night and lasted for one and one-half hours.

At 7 p. m. the first film to attract the people was given. This was followed by the conference on the prevention and suppression of cholera, after which films on cleanliness were given with some detailed explanations, which part of the work was usually taken up by an experienced assistant sanitary inspector.

An abstract of the conference about cholera is given in the vernacular dialect in the simplest way possible and easily to be comprehended by the laity as follows:

All and every one of you know the existence of cholera epidemic in the city. But, the presence of cholera should not be a cause of fear, because the disease will immediately be suppressed if all give the necessary coöperation to the Philippine Health Service, and no person will not contract the disease if he takes all the necessary sanitary precautions against it.

Now you ask me: What is cholera? How can one get it, and how could it be prevented?

Cholera is a very highly contagious and infectious disease caused by known germs. These germs, when taken into the body, within a short period of time, multiply into numerous new cholera germs. This is the reason why we get sick immediately.

How can we get the disease? For example, a person sick of cholera is in your house or in the neighboring house. You know that this patient moves his bowels and vomits, and his excreta and vomitus contain many cholera germs. You also know that there are flies in the house or in the neighborhood. These flies—small insects as they are—do a great danger to the safety of many people. These insects, after feeding on the vomitus and excreta of our cholera patient, carry germs on their feet and when they alight on our foods and drinks which we take into our mouths, we will get sick of cholera.

Another way how the disease is contracted is when we visit a patient sick of the disease. The cholera germs that can not be seen thru the naked eye from the excreta and vomitus may cling on our fingers and when we eat with our infected hands, we will also get the disease.

There is still another way in which the disease may be spread. You well know that there are some people who are carriers of cholera germs, but these people do not get sick of this disease, because they are physically healthy and strong. But just as soon as they happen to take in indigestible foods and drinks, their constitution will be weakened, and then they get sick of cholera. The excreta of these carriers, if not properly disposed of in sanitary toilets, will be good media for the dissemination of the disease.

Now then, how can the disease be prevented? I wish to tell you that cholera germs enter the body only thru the mouth and no more. Also, I wish to tell you that these germs are easily killed after a short exposure under the sun or by fire and boiling water. Now, from what I have just told you, you will right away know the prevention of the disease. It will be this: that all foods and drinks that we take in thru our mouths should be thoroughly and sanitarily clean. All foods should be well cooked and all water used for drinking purposes properly boiled. Avoid all indigestible foods such as "talangka," "talaba," "susu," "tulua," "bagong," and "alamang" prepared in Navotas, Rizal. Our excreta should be disposed of in a sanitary way. We should wash our hands with soap and water after using the toilets; and the same way before we take our meals.

There is the most important thing to do for the prevention of the disease, and that is all of us should be vaccinated with anticholera vaccination. This will give us in our blood strength and resistance to fight the disease. We have now a great number of groups of vaccinators who perform this kind of vaccination. They go to all parts of the city and vaccinate all people. We have vaccinating stations in all markets, health districts, and at the central office, besides those under the charge of the Quarantine Service, Red Cross Nurses, Office of the Public Welfare Commissioner, the Bureau of Constabulary, as well as those vaccinations performed by some private practitioners. In this connection, I wish to inform you that the vaccinating station at Santa Potenciana Building, Intramuros, is always crowded with people every day waiting for their turn to be vaccinated. All people of all nationalities may be seen. Many are Americans, Spaniards, Chinese, and Japanese people; many are noted Government officials, and some are our present representatives and senators. All of these people, as we do, know the good effect of the anti-cholera vaccination. I wish to inform you further that the majority of persons who have contracted cholera have not been vaccinated. So you see the importance of the anti-cholera vaccination to avoid the disease.

Lastly, the Philippine Health Service requests your hearty coöperation. If you have a relative of yours or your neighbor who is suffering from cholera, you please notify the central office the district health stations, or the San Lazaro Hospital by phone or verbally. The health officers will then be directed to your house, who will instruct you as to what should be done with your patient, as well as sanitary inspectors who will disinfect your house, belongings, and utensils used by the patient. An early notification of cases of cholera should always be done in all cases.

After this conference, health leaflets on cholera were distributed to all present. The people were requested to read the instructions carefully, and after reading them to pass them to their neighbors, friends, and relatives who afterwards would also pass them to others. In this way the leaflets were in a continuous rotation and all interested persons were able to read them.

During the performance of this part of the educational campaign, slides giving the instructions for the prevention of cholera in Spanish and Tagalog were distributed to all cine-

matographs in the city, especially in places where cholera cases have occurred. The managers of these movies were kindly requested to project them before and after their regular films were shown. In this way, the patronizers of the movies had the chance to read the instructions as follows:

[Spanish]

HAY CÓLERA EN MANILA

Se ruega al público su cooperación notificando a la Oficina de Sanidad cualquier caso sospechoso. El microbio del cólera entra por la boca solamente con los alimentos que comemos y *se evita*.

Lavando las manos antes de comer bebiendo agua pura. No comiendo alimentos indigestos, crudos o mal cocidos. Vacunándose contra el cólera. Teniendo una buena disposición de desperdicios y excreta.

SERVICIO DE SANIDAD DE FILIPINAS

[Tagalog]

MAGIÑGAT KAYO

Mayrong cólera sa Maynila. Ilagan ninyo.

Maghugas ñg kamay bago kumain. Uminom ñg malinis na tubig. Huag kakain ñg pagkaing hindi luto. Painyección kayo laban sa cólera. Pagawa at gumamit ñg malinis na palikuran.

Ipagbigay alam sa Sanidad ang lahat ñg may sakit.

In conclusion, it may be stated here that the coöperation displayed by the cine managers as well as by the general public in this regard is highly praiseworthy, and as a whole, the educational health campaign, as carried out, has materially done much towards the immediate prevention and suppression of cholera, and at the time of this writing, cholera has entirely been wiped out in the city.

THE JUNIOR RED CROSS IN THE PHILIPPINE ISLANDS

By MARY COCANNON

Secretary, Junior Red Cross, Philippine Section

In 1917 the schools of America, finding it impossible to keep the Spirit of War outside the classroom door, faced the question: "Shall we inculcate hatred of the enemy in the hearts of our children?" In answer, eleven million students were enrolled as Juniors in the American Red Cross. Their service was offered for the welfare of American soldiers in hospitals and the children in Europe orphaned by the war. The Manual Arts Departments of the schools made furniture, dressings, and garments for the Hospital Service.

A membership fee of fifty centavos was required and its expenditure limited to projects for the welfare of children, all such projects to have educational value for the Juniors sponsoring them. Underlying all plans was the great instruction. "Love one another." Political boundaries and racial barriers were not accounted unsurmountable. Within a year after its inception—while the world revelled in an orgy of hatred—the American Junior Red Cross brought sixteen thousand starving Austrian orphan children across the border into Italy where food and shelter awaited them at the hands of their enemies. The emotional life of the American school children was thus turned into a great current of love and service for others. A window in the schoolroom was opened upon the outside world, and the students found themselves responsible for their share in its betterment.

Today, there are 34 countries with National Junior Red Cross organizations and the American Junior Red Cross has a membership in the United States alone of some six million. The membership fee has been abolished. School projects such as fiestas, athletic contests, food and toy sales, concerts, and kindred other activities now earn the money for financing the many projects of service undertaken by the Junior Red Cross.

The Philippine Section of the American Junior Red Cross, with its recorded membership of 700,141 for the year 1924, has an honorable place in this world movement. It has retained a membership fee to finance its major activity, the dental clinic.

There are today 71 clinics in operation, with Manila schools leading with seven clinics, and Cebu and Pangasinan a close second, with six each.

The minimum cost of a clinic is estimated at ₱3,000 a year. This expense covers medical supplies, transportation, per diem allowances, and salaries of the dentist and his helper. The clinic is moved thru the province and made to reach even the remote barrios. The Red Cross flag hanging from the school window tells of the relief to be found inside. How great is that need is shown in the October report for 1924, when 74 clinics reported 36,229 children inspected with 69 per cent of these showing defective teeth; and in these cases 20,187 extractions mostly of roots and temporary teeth were necessary. There were made 21,259 fillings, and 25,200 cleanings were given. Of the children with defective teeth, 40 per cent had full corrections made. The clinic hours conform to school hours, but these dentists gave an excess of 90 minutes daily, by working an average of 7½ hours.

A summary of work done by Iloilo's staff of four dentists from June to December showed dental defects in 73 per cent of the 8,092 children examined. Of these, 71 per cent were corrected at an average cost of 20 centavos a child.

A survey of 8,000 students of the intermediate schools of Manila made in June rated 90.9 per cent defective. Parents were notified and requested to provide private care when finances permitted. This step was requested, first, because of the certainty that many of the defective teeth would be beyond saving when Junior Red Cross help could be made available, and secondly, to impress on the children themselves their responsibility as citizens to keep physically fit, and—when financially able—to relinquish to those less fortunate their personal share of the direct benefits to be obtained from community welfare projects.

A January re-inspection of the 1,837 children, whose parents agreed to provide the dental care required, showed that 299 of these children had complied with the request and thereby assured dental care to so many additional children.

It is financially impossible for the Junior Red Cross of the Philippine Islands to cover completely the dental needs of the children in the schools today. Concentration on reparative and prophylactic work, therefore, has seemed the wisest course. Classroom instruction in mouth hygiene, class drills in the use of the tooth-brush, distribution of brushes at cost price, lectures on the value of the clean mouth wherever public gatherings or

club meetings permit—all these activities are included in the educational phase of the work. The test of the effectiveness of the brush drill is found in the small boy by the roadside who invariably inserts his finger into his mouth and rotates it vertically when asked, "How do you brush your teeth?" All cases requiring long treatment, bridge and gold work, are referred to private dentists. Adults are treated in extreme emergency and then only when private care is not available.

The Junior Red Cross dental clinics in Oakland, California, in the year 1922 recorded 20,000 children receiving private dental care as a result of their inspection and recommendation. This result was held of more far-reaching and permanent value educationally than the corrective work done in the clinics themselves.

The value of corrective work looms largest in the minds of the public because its results are visible. It will fade into insignificance when the value of a clean mouth and knowledge of how to obtain it has permeated the consciousness of the youth of the land.

It is a pleasure to record here a coöperation between the Philippine Health Service, University of the Philippines, and the Junior Red Cross which brought into existence splendid volunteer service.

The Philippine Health Service and Junior Red Cross, with the help of a few interested friends, provided the means for establishing a dental clinic in the leper ward of the San Lazaro Hospital. The seniors of the Dental College of the University of the Philippines are giving their services three hours weekly to correct the dental defects of the 102 leper children there. This service will be continued until all have been treated. No finer volunteer service has been rendered in the name of the Junior Red Cross in these Islands, for no other could have less of an ulterior motive.

The superintendents and teachers, who have given hours of their free time to Junior Red Cross service, so that the children under their care might be bettered physically, have set an example of service for others worthy of emulation. Of all such, it may be truly said—

Who gives himself with his alms feeds three:
Himself, his hungering neighbor, and Me.

REPORT OF JANUARY RE-INSPECTION FOLLOWING DENTAL SURVEY OF INTERMEDIATE SCHOOLS OF MANILA

JUNIOR RED CROSS
JANUARY 16, 1925

In June, 1924, a dental survey of the eight intermediate schools of Manila showed 90.9 per cent of the students with defective teeth. Parents who could afford to pay for private treatment were asked to sign cards agreeing to provide this. Seventeen and a half per cent of the total number with defective teeth returned signed cards.

During the week of January 5, a re-inspection of the seventeen and one-half per cent was made. Five per cent of these were found with the corrections made and seventeen per cent with the work partly done and still under private care. The tabulated report is presented here. It is not known how far the teachers coöperated to obtain these meagre results. Persistent reminders consistently given should have brought a higher percentage.

Schools	June survey		January re-inspection				
	Defective	Cards signed	All corrections made	Still under private care	Agreement not kept	Complete corrections	Private work started
						<i>Per cent</i>	<i>Per cent</i>
Mabini.....	1,385	339	18	47	274	5	19
San Nicolas.....	771	177	2	50	56	1	29
Soler.....	644	153	24	20	129	16	28
Ermita.....	685	169	11	6	152	6	10
Sampaloc.....	1,128	198		33	182	0	16 1/2
Paco.....	1,113	124	12	23	89	9	28
Intramuros.....	403	42	2	6	34	5	19
Tondo.....	1,494	141	2	43	24	2	31

SUMMARY

JUNE REPORT

	Number
Students with defective teeth.....	7,623
Students whose parents signed cards.....	1,343

JANUARY REPORT

	Number	Per cent
Students with all corrections made.....	71	5
Students still under private care.....	228	17
Those receiving private care as result of survey.....	299	22
Parents who failed to keep their agreement.....	890	

BENEFIT DERIVED

Three per cent of all students found with defective teeth withdrawn as responsibility of Junior Red Cross clinics and placed under private care. This is equivalent to enlarging the Manila Staff by one dentist for one month's work.

MARY CONCANNON
Secretary, Junior Red Cross

CLINIC ADJUSTMENT FROM JUNE 1, 1924, TO JANUARY 15, 1925

I.—Clinics closed

Provinces	Dentists	Transferred to—	Provinces	Dentists	Transferred to—
Bataan.....	De Jesus	Bulacan.	Sorsogon.....	Gonzales	Zambales.
Mountain Province..	Quibilan...	Pangasinan.	Zamboanga.	Carmelo.	Sulu.
Nueva Vizcaya.....	Purugganan.	Do.			

II.—New clinics opened

Provinces	Dentists	Provinces	Dentists
Bohol.....	Luna.	Occidental Negros.	Fernandez.
Capiz.....	Acevedo.	Pampanga.....	Naval.
Camarines Sur.....	Rubio.	Pangasinan.....	Purugganan.
Cebu.....	Guevara.	Rizal.....	Fernandez.
Leyte.....	Navea.	Surigao.....	Rana.
Manila.....	Colet.	Zambales.....	Gonzales.

III—Dentists resigned or dismissed and by whom replaced

Provinces	Dentists	Cause	Replaced by—
RESIGNED			
Bohol.....	Luna	To the States	Saxon.
Cavite.....	Valte	Private practice	Tiongson.
Cebu.....	Quiño.	To the States	Tumaliwar.
Ilocos Norte.....	Rivera	do.	Estanislao.
Ilocos Sur.....	Angco.		Ferraren.
Iloilo.....	Kalaw		Improgo.
Occidental Negros.....	Tobias	Private practice	Lardizabal.
Pangasinan.....	Concepcion	Illness	Sideco.
Do	Cruz.		Batungbacal.
Tayabas.....	Aguila	Illness	Zamora.
DISMISSED			
Bulacan.....	Tangwango		De Jesus.
Cagayan.....	Tiangco		None available.
Mindanao.....	Ferrer		Carmelo.
Cebu.....	Abesamis		Ong (new).

IV.—Assignments to cover March resignations

Provinces	Dentists	Provinces	Dentists
Abra.....	Sipin.	Leyte.....	Magsambol.
Albay.....	Mascardo.	Occidental Negros	Evangelista.
Cebu.....	Tumaliwan.	Pampanga.	Valino.

SUMMARY

	Number
Clinics closed	5
New clinics opened	12
New dentists engaged	22
Resignations requested	4
Resignations volunteered	7
Dismissal	4

MISCELLANEOUS

AUGUST

BATANGAS

One hundred thirty-three new Antipolo closets were being constructed in 6 municipalities, 16 schools were inspected, 1,636 pupils were examined, and 46 conference were given by presidents of sanitary divisions and district nurses. Five hundred (500) persons were injected with pure cholera and 225 with pure typhoid vaccine.

CEBU

Medical inspection of school children.—During the month of August, the medical examination of school children was continued in the City of Cebu. A total of 1,464 school children were examined including the intestinal parasites survey; the total number of fæces examined during the month was 408 with 12 negatives and 396 positives. In conjunction with the medical examination of school children, they were also immunized against cholera and typhoid and, during the month, a total of 2,644 first and second injections were given to school children.

Smallpox vaccinations.—The vaccination against smallpox has been continued during the month with a total of 9,910 with 4,052 positives and 2,249 negatives during the month of July, excepting five municipalities.

LANAO

Extensive campaign of vaccination was waged against smallpox, reaching as far as the Bukidnon-Lanao and Misamis boundary. This campaign exerts compulsory vaccination of both Christians and Mohammedans, including pagans, in the different sections of the province. The total number of vaccination made during the month of July was 2,559 with 2,380 inspections.

ISABELA

A sanitary contest was done in the barrio of Casibarang, Cabagan, during the holiday with satisfactory result. It can be said without fear that 98 per cent of the houses of this barrio have their own closets. It is an old custom of some, if not all, of the barrio people not to use closet for their necessities. Lecture was given by Doctor Purugganan about cleanliness and good sanitary custom.

LAGUNA

During the town *fiesta* of Nagcarlan, a sanitary contest has been celebrated with mutual coöperation of the municipal president, school authorities, woman's club, and town people. The contest was successful and has secured with great enthusiasm from the inhabitants of the locality. Five diplomas have been awarded and distributed as follows: One, for the best house; one, for the best bakery; one, for the best Antipolo system; one for the best *tienda sari-sari*; and one, for the best garden.

OCCIDENTAL NEGROS

The general sanitation throughout the province is satisfactory, in spite of the heavy rainfalls that occurred during the month of August. People are better off from the the sanitary standpoint than a year ago, as they realize that sanitation and hygiene is an important asset in public health, and an index of culture and social and economic progress.

ZAMBOANGA

About 5,000 school children were examined in different schools of Zamboanga and adjacent barrios, at the beginning of the school year but only partial reports are available. Out of 1,849 reported only 85 or 4.5 per cent had no defects. Almost 95.5 per cent are suffering from diseases of some kind, the most common being that of the eyes, teeth, and throat—either conjunctivities or trachoma, dental caries and tonsillitis or merely enlarged tonsils, and a great many of the school children present this trial of diseases.

Eleven thousand one hundred twenty (11,120) were vaccinated against cholera and typhoid during the month in the City of Zamboanga alone.

PERSONNEL

BATANGAS

Nurse Maria Ildefonso has been ordered to proceed to Lipa as her permanent station.

BULACAN

Doctor Martin Santiago, newly appointed president of the Tenth Sanitary Division, Quinigua, reported to the district health officer and was introduced to the municipal authorities of his division.

Dr. Trinidad Yusay completed his course of instruction in this district and went on August 14, 1925.

BUTUAN

Doctor Pedro Malbas and Sanitary Inspector Juan V. Peralta have been ordered for sanitary inspections and yaws campaign to the interior of the province.

ILOCOS NORTE

Doctor Arreola was ordered to proceed to Dingras relieving Doctor Goitia who has been transferred to another province.

LEYTE

Miss Encarnacion Barrantes and Mr. Deogracias Lustre were ordered to make vaccination against typhoid and cholera in Tacloban.

Doctor Mariano Carreon, assistant district health officer, was ordered to assist the chief of the hospital and resident physician in all operations in the Leyte Provincial Hospital whenever he is in Tacloban.

ORIENTAL NEGROS

Mr. Afustin L. Somido, president of the Sanitary Division of Lazi, reported for duty on August 3, 1925.

Doctor Venancio Garcia Bustus, president of the Sanitary Division of Basi, reported for duty on August 24, 1925.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of August, 1925]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR, 1925¹ BY NATIONALITIES

Nationality	Population
Americans.....	3,184
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All Others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,840
No. 3, Paco.....	78,646
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,320
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED FROM HOURLY OBSERVATIONS AUGUST, 1925

Date	Pres- sure ¹ mean	Temperature					
		In shade ²				Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.
							8 a. m. mean 2 p. m. mean
	mm.	°C.	°C.		°C.		°C.
1-10.....	758.18	26.8	32.6	8, 9	22.9	7	29.9 30.1
11-20.....	56.70	26.9	32.9	11, 13	22.9	20	29.8 29.9
21-31.....	53.63	26.7	32.1	31	23.8	27	28.7 28.9

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS AUGUST, 1925—Continued**

Date	Relative humidity				Day
	Mean	Daily mean maximum	Day	Daily mean minimum	
	Per cent	Per cent		Per cent	
1-10.....	84.4	89.4	5	80.3	2
11-20.....	85.2	92.3	19	79.9	13
21-31.....	86.3	92.0	25	81.4	31

Date	Prevailing direction	Wind			Atmometer ² (open air)		
		Velocity			Total	Daily maximum	Day
		Total	Daily total maximum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	SW.	1,981.0	376.5	2	29.3	4.5	3
11-20.....	SW.	3,249.0	509.0	16	24.6	4.0	13
21-31.....	SW.	4,127.0	558.0	25	24.0	3.9	29

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	61 05	9 30	8	65.4	6
11-20.....	37 55	9 05	13	259.0	9
21-31.....	27 55	7 05	31	222.1	9

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

² These values are taken from instrument mounted in the observatory park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE
CITY OF MANILA, BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	6	3	9	33.83
Filipinos.....	574	519	1,093	45.05
Spaniards.....				
Other Europeans.....				
Chinese.....	26	24	50	32.99
All Others.....	5	5	10	53.90
Total and average.....	611	551	1,162	43.86

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MEISIC:							
1. Tondo.....	192	190	382	15	4	19	401
2. San Nicolas.....	26	26	52	2	3	5	57
3. Binondo.....	22	18	40				40
Total.....	240	234	474	17	7	24	498
No. II, SAMPALOC:							
4. Santa Cruz.....	78	45	123	4	5	9	132
5. Quiapo.....	21	24	45				45
6. San Miguel.....	10	9	19	1		1	20
7. Sampaloc.....	98	85	183	11	6	17	200
Total.....	207	163	370	16	11	27	397
No. III, PACO:							
8. Port Area.....	2	1	3				3
9. Intramuros.....	17	18	35	1	1	2	37
10. Ermita.....	19	24	43	3		3	46
11. Malate.....	50	49	99	5	4	9	108
12. Paco.....	20	16	36		1	1	37
13. Pandacan.....	5	13	18				18
14. Santa Ana.....	9	9	18				18
Total.....	122	130	252	9	6	15	267
Grand total.....	569	527	1,096	42	24	66	1,162

Attended by physician, living 264; stillbirths 27.

Attended by midwife, living 74; stillbirths 3.

Attended by family, living 824; stillbirths 17.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	2	1	3	11.28
Filipinos.....	357	349	706	29.10
Spaniards.....	3		3	18.08
Other Europeans.....				
Chinese.....	22	3	25	16.50
All Others.....		1	1	5.39
Total.....	384	354	738	27.86

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	109	81
Divorced.....		
Widowed.....	33	65
Single.....	305	251
Condition not stated.....		1
Total.....	447	401
Grand total.....	848	

Stillbirths	47
Number of births with medical attendance.....	481
Number of deaths without medical attendance.....	367

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	124	92	10	12	238
1 year plus.....	47	37	7	3	94
2 years plus.....	31	32	4	5	72
3 years plus.....	10	19	1	1	31
4 years plus.....	3	3	1		7
5 to 9 years.....	8	13		2	23
10 to 14 years.....	5	4	1	1	11
15 to 19 years.....	7	7	3	2	19
20 to 24 years.....	21	21	3	2	47
25 to 29 years.....	20	16	6	3	45
30 to 34 years.....	10	10	1	3	24
35 to 39 years.....	15	14	3	2	34
40 to 44 years.....	14	8	3	5	30
45 to 49 years.....	12	9	2	2	25
50 to 54 years.....	12	9	2		21
55 to 59 years.....	14	5	3		22
60 to 64 years.....	15	8	4	1	28
65 to 69 years.....	3	5	3		11
70 to 74 years.....	2	10	1		13
75 to 79 years.....	3	6		2	11
80 to 84 years.....	6	7	2	1	16
85 to 89 years.....	1	6			7
90 to 94 years.....	1	3			4
95 to 99 years.....		7	1		8
100 years and over.....		3			3
Age not stated.....					
Total.....	384	354	61	47	846

Two (2) male Filipinos, ages 2 years and 70 years respectively, permanent residences unknown, not included in the above table.

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH AND MUNICIPAL DISTRICTS

Health districts

Age groups	No. 1, Meinic						No. 2, Sampaloc					
	No. 1, Tondo		No. 2, San Nicolas		No. 3, Binondo		No. 4, Santa Cruz		No. 5, Quiapo		No. 6, San Miguel	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year.....	46	32	9	6	1	2	15	10	2	3	1	1
1 year plus.....	18	17	6	3	1	1	2	4	2	2	1	1
2 years plus.....	13	14	2	1	1	1	6	6	1	1	1	4
3 years plus.....	4	8	1	1	1	1	2	3	1	1	1	5
4 years plus.....	1	1	1	1	1	1	2	3	1	1	1	2
5 to 9 years.....	3	5	1	1	1	1	1	2	2	2	2	1
10 to 14 years.....	8	1	2	1	1	1	3	3	1	1	1	2
15 to 19 years.....	1	6	1	1	1	1	2	1	1	1	1	1
20 to 24 years.....	3	4	5	2	1	1	7	6	2	1	1	1
25 to 29 years.....	2	4	1	1	1	1	6	3	1	1	1	4
30 to 34 years.....	2	5	2	2	1	1	4	2	1	1	2	3
35 to 39 years.....	1	5	1	1	1	1	4	1	1	1	5	4
40 to 44 years.....	3	4	2	1	1	1	4	1	1	1	3	2
45 to 49 years.....	3	5	1	1	1	1	1	2	1	1	3	1
50 to 54 years.....	2	1	2	1	1	1	3	1	1	1	1	1
55 to 59 years.....	3	1	1	1	2	1	5	1	1	1	1	1
60 to 64 years.....	1	3	1	1	1	1	1	1	1	1	1	2
65 to 69 years.....	1	1	1	1	1	1	1	1	1	1	1	2
70 to 74 years.....	1	1	1	1	1	1	1	1	1	1	1	2
75 to 79 years.....	2	3	1	1	1	1	3	2	1	1	1	2
80 to 84 years.....	1	3	1	1	1	1	1	1	1	1	1	1
85 to 89 years.....	2	2	1	1	1	1	1	1	1	1	1	1
90 to 94 years.....	2	2	1	1	1	1	1	2	1	1	1	1
95 to 99 years.....	1	1	1	1	1	1	1	2	1	1	1	1
100 years and over.....	1	1	1	1	1	1	1	2	1	1	1	1
Age not stated.....	1	1	1	1	1	1	1	2	1	1	1	1
Total.....	122	121	36	23	6	7	64	57	8	14	3	51
Grand total.....	243	243	59	59	13	13	121	121	22	22	6	109

[Stillbirths not included]

[illegible]

V. Diseases of the respiratory system

97-107	Bronchitis:	17	20			37
99	a. Acute.....	8	9			17
	b. Chronic.....					
100	Bronchopneumonia:	48	32	4	1	85
	a. Bronchopneumonia.....	4	5			9
	b. Capillary bronchitis.....					
101	Pneumonia:	8	6			14
	a. Lobar.....	1				1
102	Pleurisy.....	1	1			1
103	Congestion and hemorrhagic infarct of the lung.....	1				1
105	Asthma.....	1	2			3
106	Pulmonary emphysema.....				1	1

VI. Diseases of the digestive system

108-127	Ulcer of the stomach and duodenum:	1	2			3
111	a. Ulcer of the stomach.....		1			1
112	Other diseases of the stomach (cancer excepted).....	27	21			48
113	Diarrhea and enteritis (under 2 years of age).....	17	17			34
114	Diarrhea and enteritis (2 years and over).....					
116	Diseases due to other intestinal parasites:	1		2		1
	c. Nematodes (other than ancylostoma).....	1				3
117	Appendicitis and typhlitis.....	1				1
118	Hernia, intestinal obstruction:	1				1
	a. Hernia.....					
122	Cirrhosis of the liver:	2	2	1		5
	b. Not specified as alcoholic.....					1
124	Other diseases of the liver.....	1				

VII. Nonsensered diseases of the genito urinary system and annexa

128-142	Acute nephritis (including unspecified under 10 years of age).....	4	10			14
128	Chronic nephritis (including unspecified 10 years and over).....	5	8			18
129	Other diseases of the kidneys and annexa.....	1		3	1	1
131	Calculi of the urinary passages.....	1				1
132	Nonpuerperal uterine hemorrhage.....	1	1			1
140	Other diseases of the female genital organs.....		2			2
141						

VIII. The puerperal state

143-150	Accidents of pregnancy:					1
143	c. Others under this title.....		1			1
145	Other accidents of labor:					
	c. Others under this title.....		1			1

IX. Diseases of the skin and of the cellular tissue

151-158	Gangrene.....	1				1
151	Acute abscess.....					3
153						

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
159	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included):													
	c. Others under this title.....			1										1
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema													
161	Premature birth; Injury at birth		1	27	14									42
	a. Premature birth (not stillborn)			4	11						1			16
	b. Injury at birth (not stillborn)				1									1
162	Other diseases peculiar to early infancy			2	3									5
164	<i>XIII. Old age</i>													
164	Senility.....			6	17									23
165-203	<i>XIV. External causes</i>													
182	Accidental drowning.....			3										3
185	Accidental traumatism by fall.....			1										1
188	Accidental traumatism by other crushing (vehicles, railways, landlides, etc.):													
	c. Automobile accidents.....			1	2									3
204-205	<i>XV. Ill-defined diseases</i>													
205	Cause of death not specified or ill-defined:													
	a. Ill-defined.....			1	1									2
	Total.....	2	1	357	349	3				22	3		1	7.8
	Grand total.....	3		706		3				25		1		738

[illegible]

161-164 IX. Diseases of the skin and of the cellular tissue

162	Furuncle.....	1								1
169	<i>XI. Malformations</i>									
169	Congenital malformations (stillbirths not included)									1
	c. Others under this title.....									
160-163	<i>XII. Early infancy</i>									
160	Congenital debility, icterus and sclerema.....	3								3
164	<i>XIII. Old age</i>									
164	Senility.....	1								1
165-203	<i>XIV. External causes</i>									
182	Accidental drowning.....	1								1
185	Accidental traumatism by fall.....	1								1
188	Accidental traumatism by other crushing (vehicles, railways, landlides, etc.).....	1								1
	a. Railroad accidents.....	1								1
	c. Automobile accidents.....	1								1
204-205	<i>XV. Ill-defined diseases</i>									
205	Cause of death not specified or ill-defined:									
	a. Ill-defined.....	1								1
	Total.....	56	46	1				2	1	1
	Grand total.....	1	102	1				3	1	108

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough.....					2	2
11. Influenza:						
a. With pulmonary complica- tions specified.....					2	2
21. Erysipelas.....					1	1
29. Tetanus:						
a. Umbilical.....				6	2	8
32. Tuberculosis of the meninges and cen- tral nervous system.....					2	2
55. Beriberi:						
a. Infants.....		1		6	46	53
56. Rickets.....					1	1
71. Meningitis:						
b. Nonepidemic cerebrospinal meningitis.....					1	1
80. Infantile convulsions.....				1	1	2
99. Bronchitis:						
a. Acute.....					22	22
b. Chronic.....					3	3
100. Bronchopneumonia:						
a. Bronchopneumonia.....					32	32
b. Capillary bronchitis.....					5	5
101. Pneumonia:						
a. Lobar.....					3	3
113. Diarrhea and enteritis.....					28	28
124. Other diseases of the liver.....					1	1
128. Acute nephritis.....					2	2
153. Acute abscess.....					1	1
159. Congenital malformations (stillbirths not included):						
c. Others under this title.....				1	1	2
160. Congenital debility, icterus, and scler- ema.....	11	6		16	12	45
161. Premature birth; injury at birth:						
a. Premature birth (not still- born).....	16					16
b. Injury at birth (not still- born).....	1					1
162. Other diseases peculiar to early in- fancy.....	2			2	1	5
Total.....	30	7		32	169	238

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	23,948
Number of rats caught by spring traps.....	2,979
Number of cage wire traps set.....	700
Number of rats caught by cage wire traps.....	20
Number and kind of baits (coconuts).....	24,648
Number of poison portions placed.....	13,791
Number of rats found poisoned.....	260
Number of rats killed by clubs and other weapons.....	838
Number of rats found dead from other causes.....	413
Total number of rats otherwise caught, found dead, or killed.....	4,510
Total number of rats sent to the Laboratory for examination.....	4,510
Total number of rats found positive for plague.....	0

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total		
	Male		Female		Male		Female		Male		Female		Cases	Deaths	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths					
I	No. 1	2	1	2	1			1	1	2	1	3	2	5	3
	No. 2	1	1	1		1				2	1	1		3	1
	No. 3	2	1	1	1					2	2	1	1	3	1
II	No. 4	1		2						1		2		3	
	No. 5			1	1						1	1	1	1	1
	No. 6	1													
	No. 7	6	4	1	1	1		1	1	7	4	2	2	9	6
III	No. 8														
	No. 9	3	1	1						3	1	1		4	1
	No. 10	2		1	1					2	2	1		3	
	No. 11	3								3				3	
	No. 12	4	2	4		1	1			5	3	4		9	3
	No. 13														
	No. 14	1		1	1							1	1	1	1
Transients		10	5	6	2					10	5	6	2	16	7
Total		35	14	21	6	3	1	2	2	38	15	23	8	61	23

REMARKS:

Total cases reported within the month in the City of Manila	75
Residents cases	53
Nonresident cases	22
Foreign cases	0
Total deaths reported within the month in the City of Manila	23
Deaths among resident cases	16
Deaths among nonresident cases	7
Deaths among foreign cases	0
Total cases confirmed as typhoid fever	59
Cases confirmed as paratyphoid fever	2
By autopsy	
By blood culture	1
By blood reaction	0
By urinal reaction	18
By urine examination	0
By feces examination	0
By clinical symptoms	40
Total cases not confirmed	14

Typhoid Carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF AUGUST, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home				Total				Grand total	
	Male			Female			Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....	3	1	1	1	1	1	1	4	4	4	1	4	4	8	5
	No. 2.....	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1
	No. 3.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
II.....	No. 4.....	1	1	1	1	1	1	1	1	1	1	1	4	2	5	2
	No. 5.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No. 6.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No. 7.....	2	1	1	1	2	3	2	2	2	5	3	3	2	8	5
	No. 8.....	2	1	1	1	1	1	1	1	1	2	1	1	1	3	1
	No. 9.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
III.....	No. 10.....	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1
	No. 11.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No. 12.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No. 13.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	No. 14.....	12	3	1	1	1	1	1	12	3	1	1	1	1	13	4
	Transients.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total.....	25	5	6	2	3	5	3	10	9	30	8	16	11	46	19

REMARKS:

Total cases reported within the month in the City of Manila.....

Resident cases.....

Nonresident cases.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases.....

Deaths among nonresident cases.....

Total cases not confirmed as dysentery.....

Dysentery Carrier—1

50

37

13

19

15

4

4

CHOLERA REPORTED DURING THE MONTH OF AUGUST, 1925, CITY OF MANILA

465

CONFIRMED CASES

Health districts	Hospital						Home				Total				Grand total	
	Male			Female			Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.														1	
	No. 2.			1									1			
	No. 3.															
	No. 4.														1	
	No. 5.	1									1					
	No. 6.															
	No. 7.															
	No. 8.														1	
	No. 9.	1									1					
	No. 10.															
	No. 11.															
	No. 12.															
	No. 13.															
	No. 14.															
	Transients.															
	Total.	2		1							2		1		3	

REMARKS:

Total cases reported within the month in the City of Manila.	5
Resident cases	5
Nonresident cases	0
Foreign cases	0
Nonresident cases not confirmed as cholera.	2
Resident cases not confirmed as cholera.	0
Total deaths reported within the month in the City of Manila.	0
Deaths among resident cases confirmed as cholera.	0
Deaths among nonresident cases confirmed as cholera.	0

Cholera Carrier—22

DIPHTHERIA REPORTED DURING THE MONTH OF AUGUST, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.														
Nc. 1.....														
Nc. 2.....														
Nc. 3.....														
Nc. 4.....														
Nc. 5.....														
Nc. 6.....														
Nc. 7.....														
Nc. 8.....														
Nc. 9.....	1	1							1	1			1	1
Nc. 10.....														
Nc. 11.....			1						1				1	
Nc. 12.....	1								1				1	
Nc. 13.....														
Nc. 14.....														
Transients														
Total.....	2	1	1						2	1	1		3	1

REMARKS:

Total cases reported within the month in the City of Manila..... 10

Resident cases..... 8

Nonresident cases..... 2

Nonresident cases not confirmed as diphtheria..... 5

Nonresident cases not confirmed as diphtheria..... 2

Total deaths reported within the month in the City of Manila..... 1

Deaths among resident cases confirmed as diphtheria..... 1

Deaths among resident cases not confirmed as diphtheria..... 0

Deaths among nonresident cases confirmed as diphtheria..... 0

Diphtheria Carrier—1

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF AUGUST, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	19	3	2	1
Varicella.....	2	3		
Varioloid.....				
Smallpox.....				
Measles.....	1	3		1
Whooping cough.....	1	2		2
Influenza.....	40	17	9	3
Bubonic plague.....				
Encephalitis Lethargica.....		1		1
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	141	93	68	60
Tuberculosis of all forms.....	8	9	8	10
Beriberi, infantile.....	32	15	32	15
Beriberi, adult.....	4		4	

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	8	1		1
Varicella.....				
Varioloid.....				
Smallpox.....				
Measles.....				
Whooping cough.....				
Influenza.....	2	3		1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	20	9	7	3
Tuberculosis of all forms.....	2	4	2	4
Beriberi, infantile.....	2	4	2	4
Beriberi, adult.....				

* One permanent residence unknown included.

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF AUGUST, 1925**

Sera and vaccines	On hand August 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Antidiphtheric serum (units).....	570,000		570,000	205,000	365,000
Antidysenteric serum (ampoules).....	114	200	314	135	179
Antitetanic serum (units).....	800,000	26,000	826,000	206,000	620,000
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	15,080	52,560	67,620	42,080	25,580
Dried vaccine virus (units).....	52,000	102,400	154,400	108,800	46,100
Fresh vaccine virus (units).....	15,200	166,000	181,200	175,200	6,000
Gonococcus vaccine (ampoules).....					
Mixed (cholera-typhoid) vaccine (c.c.)...	15,030	84,600	99,630	82,980	16,650
Normal horse serum (ampoules).....		55	55	55	
Streptococcus vaccine (ampoules).....					
Typhoid vaccine (c.c.).....	8,570	6,000	14,570	7,800	6,770

Health districts	Municipal districts	Number of injections made in—										Total number of injections					
		Adults					Children					First			Second		
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		V.	R.	V.	R.
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.				
No. 1.	Tondo.....	945	568	749	318	422	456	408	571	313	499	284	554	1,353	1,139	1,062	817
	San Nicolas.....	568	131	357	248	416	237	181	8	146	25	157	59	749	139	503	273
	Binondo.....	268	713	549	309	163	632	226	822	243	636	232	305	484	1,535	797	995
	Santa Cruz.....	110	1,175	46	316	22	723	109	320	99	243	53	108	219	1,495	145	1,064
	Quiapo.....	9	698	16	684	16	596	153	83	133	26	153	18	167	781	199	710
No. 2.	San Miguel.....	12	58	5	51	5	50	33	10	19	12	11	9	45	68	24	63
	Sampaloc.....	384	733	324	565	339	413	180	92	114	32	193	243	564	825	438	647
	Port Area.....	70	54	54	54	7	7	44	44	37	37	4	4	114	114	91	91
	Intramuros.....	233	618	198	453	127	463	47	243	107	342	90	453	270	561	235	796
	Ermita.....	152	152	151	176	7	176	32	32	20	133	3	29	184	184	138	217
No. 3.	Malate.....	27	352	12	295	7	332	21	177	20	133	3	173	48	529	32	423
	Paco.....	35	651	30	514	25	382	42	355	43	286	44	208	81	1,006	73	900
	Pandacan.....	5	25	1	6	1	4	4	4	1	6	6	2	11	29	2	11
	Santa Ana.....	5	156	4	95	2	69	7	97	2	67	3	44	12	253	6	162
	Total.....	2,535	6,100	2,221	4,563	1,600	4,563	1,413	2,853	1,295	2,437	1,233	2,222	4,003	3,958	3,516	7,045
																2,333	6,735

* Mixed typhoid and cholera vaccine used for the first and second injections.

† Typhoid and paratyphoid vaccine for the third injections.

V. in persons never vaccinated before; R. revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	19,813	2,767	12,438	4,606
Agusan.....	1,084	511	75	498
Albay.....	26,064	6,758	7,308	11,998
Antique.....	5,527	2,803	1,489	1,235
Bataan.....	9,248	2,465	3,632	3,146
Batanes.....	748	207	232	309
Batangas.....	27,849	8,010	6,065	13,774
Bohol.....	117,959	22,963	63,450	31,546
Bulacan.....	180,018	22,792	98,062	9,164
Cagayan.....	23,932	4,964	9,731	9,237
Camarines Norte.....	5,186	1,685	1,498	1,953
Camarines Sur.....	102,286	12,733	68,267	21,236
Capiz.....	67,194	20,602	37,514	9,078
Catanduanes.....	6,002	1,728	1,009	3,265
Cavite.....	24,561	4,161	13,178	7,223
Cebu.....	64,062	19,488	15,480	29,094
Cotabato.....	9,741	3,013	2,908	3,825
Culion Leper Colony.....	328	27	220	81
Davao.....	4,924	2,125	1,168	1,631
Ilocos Norte.....	12,486	3,751	2,790	5,945
Ilocos Sur.....	50,110	8,728	27,337	14,045
Iloilo.....	43,082	20,541	7,026	15,468
Isabela.....	9,880	2,910	3,903	3,067
Laguna.....	20,867	7,578	5,406	7,883
Lanao.....	7,196	2,183	3,061	1,952
La Union.....	72,927	6,926	52,907	13,094
Leyte.....	43,807	17,538	6,263	20,006
Marinduque.....	5,885	1,302	2,016	2,567
Masbate.....	7,090	2,160	2,150	2,780
Mindoro.....	4,172	958	1,050	2,164
Misamis.....	46,712	14,390	24,649	7,673
Mountain Province.....	9,998	2,969	3,981	3,048
Nueva Ecija.....	23,350	8,079	6,221	9,050
Nueva Vizcaya.....	6,332	728	2,965	2,639
Occidental Negros.....	15,824	8,328	2,748	4,748
Oriental Negros.....	21,438	5,333	7,594	8,461
Pampanga.....	22,625	4,509	7,580	10,536
Pangasinan.....	39,992	14,399	3,706	21,987
Palawan.....	21,688	6,240	9,897	5,551
Rizal.....	20,935	5,484	10,704	4,747
Romblon.....	4,496	1,994	858	1,644
Samar.....	98,340	15,806	54,481	28,053
Sorsogon.....	15,160	4,670	5,379	5,111
Sulu.....	22,742	9,711	6,243	6,788
Surigao.....	26,561	7,991	7,492	11,078
Tarlac.....	14,586	3,114	8,313	3,109
Tayabas.....	18,401	5,867	4,851	7,683
Zambales.....	6,461	1,493	2,516	2,452
Zamboanga.....	12,811	3,735	3,804	5,272
Total.....	1,872,275	339,167	631,610	401,496

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
Abra.....	584	308	2,395	1,250	5,318	3,864	8,297	5,422
Agusan.....	202	94	95	76	76	23	873	193
Albay.....	2,286	997	2,262	1,006	5,093	3,629	9,641	5,632
Antique.....	598	103	1,326	294	923	486	2,847	883
Bataan.....	1,418	253	2,408	1,291	2,231	1,328	6,052	2,872
Batanes.....	90	19	204	52	326	86	620	107
Batangas..	3,689	518	5,528	1,703	6,212	5,379	15,429	7,600
Bohol.....	3,690	718	14,144	3,188	41,584	31,081	59,418	34,937
Bulacan..	6,820	582	14,269	2,783	40,411	33,261	61,500	36,626
Cagayan.....	1,956	373	4,111	1,015	8,520	5,239	14,587	6,627
Camarines Norte.	947	197	964	287	1,528	579	3,439	1,063
Camarines Sur.	3,089	529	9,066	1,972	38,597	16,484	50,752	18,955
Capiz.....	4,329	666	8,579	1,546	23,229	6,935	36,037	9,137
Catanduanes.	732	366	905	374	638	475	2,375	1,215
Cavite.....	2,508	523	4,047	1,186	10,073	6,123	16,623	7,832
Cebu.....	5,719	2,355	8,145	2,727	10,289	9,593	24,153	14,675
Cotabato..	207	159	647	589	2,035	1,987	2,889	2,636
Culion Leper Colony	19	6	8	8	173	119	200	128
Davao.....	274	86	885	372	2,151	939	3,810	1,397
Ilocos Norte	1,556	240	3,125	689	3,254	2,543	7,985	3,472
Ilocos Sur	4,427	1,053	9,571	3,100	18,969	9,268	32,967	13,421
Iloilo.....	5,774	594	9,105	1,570	11,536	4,792	26,415	6,956
Isabela..	386	176	1,348	617	2,830	2,391	4,564	3,184
Laguna.....	3,551	968	3,197	1,348	4,412	5,693	11,160	8,009
Lanao.....	671	98	707	215	791	320	2,169	633
La Union..	2,676	434	7,537	3,460	22,058	18,018	32,271	21,912
Leyte.....	4,294	1,345	6,893	2,308	9,939	5,076	20,128	8,729
Marinduque	523	176	776	243	1,777	797	3,076	1,216
Masbate.....	491	216	872	877	1,288	1,226	2,651	1,819
Mindoro.....	292	88	630	294	1,150	853	2,072	1,285
Misamis.....	1,306	566	4,830	1,383	18,863	4,781	19,999	6,730
Mountain Province.	339	57	1,021	354	2,437	1,407	8,797	1,818
Nueva Ecija	3,339	948	4,931	1,981	5,158	4,230	13,428	7,159
Nueva Vizcaya.	393	28	897	417	2,567	1,821	3,857	2,266
Occidental Negros.	3,212	712	2,987	962	2,838	1,021	9,037	2,695
Oriental Negros	2,409	757	3,537	1,515	5,930	3,535	11,876	5,807
Pampanga..	1,803	403	1,730	697	4,528	4,917	8,061	6,017
Pangasinan	6,911	1,563	8,953	2,702	7,978	6,109	23,842	10,374
Palawan.....	345	28	1,619	147	6,790	4,662	8,754	4,837
Rizal.....	2,907	726	2,930	1,363	4,110	5,542	9,947	7,651
Romblon.....	599	106	1,018	231	1,339	670	2,956	1,007
Samar.....	2,473	715	9,270	3,390	34,496	13,506	46,239	17,611
Sorsogon.....	1,546	476	2,484	1,134	3,710	2,338	7,740	3,948
Sulu.....	809	327	3,718	1,206	6,480	2,399	11,007	3,932
Surigao.....	1,131	347	2,966	757	7,860	3,120	11,957	4,224
Tarlac.....	1,445	332	1,866	942	3,086	4,858	6,397	6,132
Tayabas.....	1,687	463	3,028	926	6,157	3,166	10,872	4,555
Zambales..	739	161	879	520	1,702	2,015	3,820	2,696
Zamboanga..	897	686	1,178	1,055	1,737	2,474	3,812	4,165
Total.....	97,988	23,591	182,586	57,517	400,177	251,018	680,751	332,126

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....						
Agusan.....						
Albay.....	7,629	4,411	1,382	845		
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	111	66				
Bahol.....						
Bukidnon.....						
Bulacan.....	2,103	2,720	88	327		
Cagayan.....						
Camarines Norte.....						
Camarines Sur.....	1,764	1,056				
Capiz.....						
Catanduanes.....	2	65	2	88		
Cavite.....						
Cebu.....	834	869	58	22		
Cotabato.....						
Davao.....	16	36				
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....						
Isabela.....	11	5	9	2		
Laguna.....						
Lanao.....						
La Union.....						
Leyte.....						
Marinduque.....						
Masbate.....						
Mindoro.....						
Misamis.....						
Mountain Province.....						
Nueva Ecija.....						
Nueva Viscaya.....						
Occidental Negros.....						
Oriental Negros.....						
Palawan.....						
Pampanga.....	288	450	91	224		
Pangasinan.....	101	88	57	37		
Risal.....						
Romblon.....						
Samar.....						
Sorsogon.....						
Sulu.....						
Surigao.....						
Tarlac.....						
Tayabas.....						
Zambales.....						
Zamboanga.....						
Total.....	12,854	9,766	1,687	1,545		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra									
Agusan									
Albay	5,428	3,307	1,228	784			20,775	4,239	
Antique									
Bataan									
Batanes									
Batangas	95	32					304		
Bohol									
Bukidnon									
Bulacan	1,633	2,060	15	214			8,516	644	
Cagayan									
Camarines Norte									
Camarines Sur	1,372	945					5,137		
Capiz									
Catanduanes	1	56	1	68			124	159	
Cavite									
Cebu	689	862	61	30			3,254	171	
Cotabato									
Davao	6	20					78		
Ilocos Norte									
Ilocos Sur									
Iloilo									
Isabela	8	6	4	1			30	16	
Laguna									
Lanao									
La Union									
Leyte									
Marinduque									
Masbate									
Mindoro									
Misamis									
Mountain Province									
Nueva Ecija									
Nueva Vizcaya									
Occidental Negros									
Oriental Negros									
Palawan									
Pampanga	313	336	125	181			1,382	571	
Pangasinan	77	112	37	54			378	185	
Rizal									
Romblon									
Samar									
Sorsogon									
Sulu									
Surigao									
Tarlac									
Tayabas									
Zambales									
Zamboanga									
Total	9,622	7,786	1,471	1,282			39,978	5,985	

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....						
Agusan.....						
Albay.....	101	136	3	19		
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	737	108	515	116	43	1
Bohol.....						
Bukidnon.....						
Bulacan.....	469	180	466	171	316	106
Capiz.....						
Catanduanes.....						
Cavite.....						
Cebu.....	80	76	5	2		
Cotabato.....						
Davao.....						
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....	50	30	18	6	16	6
Isabela.....						
Laguna.....	15	17	4	9	7	4
Lanao.....						
La Union.....					374	30
Leyte.....	32	49	22	16	12	8
Marinduque.....						
Maabate.....						
Mindoro.....						
Misamis.....						
Mountain Province.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Palawan.....						
Pampanga.....						
Pangasinan.....	368	298	218	163	125	124
Ribal.....	121	29	61	12	50	11
Romblon.....						
Samar.....	151	27	101	19	37	
Sorsogon.....	80	16	14		20	4
Sulu.....						
Surigao.....						
Tarlac.....	65	1	54	1	26	1
Tayabas.....						
Zambales.....						
Zamboanga.....						
Total.....	2,269	967	1,471	534	1,026	295

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....									
Agusan.....									
Albay.....	45	95		4			377	26	
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	561	177	400	140	37	1	1,583	1,171	82
Bohol.....									
Bukidnon.....									
Bulacan.....	557	208	528	193	388	115	1,414	1,348	925
Cagayan.....									
Camarines Norte.....									
Camarines Sur.....									
Capiz.....									
Catanduanes.....									
Cavite.....									
Cebu.....	103	59	2	2			318	11	
Cotabato.....									
Davao.....									
Ilocos Norte.....									
Ilocos Sur.....									
Iloilo.....	74	16	36	2	44	2	170	62	68
Isabela.....									
Laguna.....	16	8	2	8	4	9	56	23	24
Lanao.....									
La Union.....					251	20			675
Leyte.....	49	33	33	20	6	2	163	91	28
Marinduque.....									
Masbate.....									
Mindoro.....									
Misamis.....									
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Palawan.....									
Pampanga.....									
Pangasinan.....	376	311	251	157	206	98	1,353	789	553
Rizal.....	83	28	45	18	49	15	261	136	125
Romblon.....									
Samar.....	77	15	64	9	15	1	270	193	53
Sorsogon.....	98	80	16			4	269	30	28
Sulu.....									
Surigao.....									
Tarlac.....	3	3	3	3	2	3	72	61	32
Tayabas.....									
Zambales.....									
Zamboanga.....									
Total.....	2,037	1,033	1,380	556	1,002	270	6,306	3,941	2,593

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....						
Agusan.....						
Albay.....	102	7	25	7		
Antique.....	344	687	122	255		
Bataan.....	745	269	284	93		
Batanes.....	142	20	9			
Batangas.....	123	61	101	55		
Bohol.....	437	132	298	106		
Bukidnon.....						
Bulacan.....	1,270	433	950	364		
Cagayan.....	247	125	64	70		
Camarines Norte.....	365	41	94	15		
Camarines Sur.....	1,867	849	1,263	624		
Capiz.....	499	331	199	116		
Catanduanes.....						
Cavite.....	1,170	585	1,055	580		
Cebu.....	4,123	2,467	1,198	490		
Cotabato.....	282	45	9	9		
Davao.....	30		2			
Ilocos Norte.....	699	333	259	338		
Ilocos Sur.....	1,044	453	544	242		
Iloilo.....	330	206	217	128		
Isabela.....						
Laguna.....	1,948	887	1,061	619		
Lanao.....						
La Union.....	1,608	364	1,404	382		
Leyte.....	526	196	446	126		
Marinduque.....	728	821	479	450		
Masbate.....	181	330	108	17		
Mindoro.....	177	49	16	1		
Misamis.....	661	269	206	15		
Mountain Province.....	244	196				
Nueva Ecija.....	837	206	471	256		
Nueva Vizcaya.....	309	296	281	275		
Occidental Negros.....	1,028	317	714	345		
Oriental Negros.....	331	156	48	95		
Palawan.....						
Pampanga.....	7,339	6,683	5,184	5,409		
Pangasinan.....	3,962	2,800	3,091	2,253		
Risal.....	5,312	1,487	1,372	355		
Romblon.....	56	135	34	76		
Samar.....	172	160	82	88		
Sorsogon.....	16		16			
Sulu.....	33	3	25	2		
Surigao.....						
Tarlac.....	541	243	263	72		
Tayabas.....	1,379	292	627	135		
Zambales.....	410	440	377	397		
Zamboanga.....	1,829	1,524				
Total.....	43,446	24,878	22,998	14,860		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925**—Continued

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra									
Agusan									
Albay	101	6	26	6			216	64	
Antique	271	610	151	216			1,912	744	
Bataan	521	174	203	54			1,699	634	
Batanes	55	17					234	9	
Batangas	130	23	122	14			337	292	
Bohol	417	177	271	144			1,163	819	
Bukidnon									
Bulacan	1,093	392	851	314			3,188	2,479	
Cagayan	109	122	35	69			603	238	
Camarines Norte	214	48	50	8			668	167	
Camarines Sur	1,521	775	1,074	574			5,012	3,535	
Capiz	400	253	138	84			1,483	537	
Catanduanes									
Cavite	1,360	600	1,174	501			3,715	3,310	
Cebu	3,404	1,872	1,042	401			11,866	8,131	
Cotabato	113	58	6	18			498	42	
Davao	12						42	2	
Ilocos Norte	733	342	347	330			2,107	1,274	
Ilocos Sur	742	380	353	219			2,619	1,358	
Iloilo	309	183	233	105			1,028	683	
Isabela									
Laguna	2,146	819	1,276	666			5,800	3,622	
Lanao									
La Union	1,152	272	910	262			3,396	2,958	
Leyte	668	166	546	102			1,556	1,220	
Marinduque	587	728	307	497			2,864	1,783	
Masbate	110	186	53	8			807	186	
Mindoro	17	6	71	38			249	126	
Misamis	565	201	139	11			1,686	371	
Mountain Province	129	197					766		
Nueva Ecija	364	159	303	221			1,566	1,251	
Nueva Vizcaya	195	306	158	291			1,106	1,005	
Occidental Negros	615	471	425	456			2,431	1,940	
Oriental Negros	216	138	43	89			841	275	
Palawan									
Pampanga	7,702	5,551	5,419	4,279			27,275	20,291	
Pangasinan	3,852	2,526	3,160	2,035			13,140	10,539	
Rizal	5,567	1,159	1,787	285			18,525	3,899	
Romblon		86		42			277	152	
Samar	97	132	55	72			561	297	
Sorsogon	14		13				30	29	
Sulu	14	4	12	2			54	41	
Surigao									
Tarlac	238	177	103	65			1,199	503	
Tayabas	791	162	830	39			2,624	1,131	
Zambales	310	387	290	356			1,547	1,420	
Zamboanga	1,754	1,356					6,463		
Total	38,608	21,221	21,476	12,973			128,153	72,307	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF AUGUST, 1925**

No case and no death reported during the month

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF AUGUST, 1925**

Province and town	Case	Death
Surigao:		
Surigao	1	1
Total	1	1

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF AUGUST, 1925**

	Health districts—			
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	Total
Orders pending, August 1, 1925:				
Minor.....	120	79	81	280
Sewer.....	26	57	6	89
Vacating.....	9	15	6	30
Filling.....	10	24	10	44
Total.....	165	175	103	443
Orders issued during the month:				
Minor.....	9	18	4	26
Sewer.....				
Vacating.....			1	1
Filling.....			2	2
Total.....	9	18	7	29
Orders completed during the month:				
Minor.....	9	11	5	25
Sewer.....	4			4
Vacating.....				
Filling.....				
Total.....	13	11	5	29
Orders cancelled during the month:				
Minor.....				
Sewer.....				
Vacating.....				
Filling.....				
Total.....				
Orders pending, August 31, 1925:				
Minor.....	120	81	80	281
Sewer.....	22	57	6	85
Vacating.....	9	15	7	31
Filling.....	10	24	12	46
Total.....	161	177	105	443
Strong material plans approved:				
New buildings including additions and alterations.....	24	42	26	92
Permits for minor building constructions:				
Approved.....	35	47	39	121
Disapproved.....	8	3	14	25
New buildings completed.....	12	47	24	83
Permits for light and mixed material constructions:				
Approved.....	22	33	41	96
Disapproved.....	6	7	7	20
Prosecutions:				
Convictions.....		1		1
Dismissals.....		3		3
Amount of fines.....		P10		P10
Plumbing permits issued.....	107	111	67	285
Plumbing projects completed.....	116	107	60	283
Premises connected to the sanitary sewer to July 31, 1925.....	2,428	4,125	491	7,044
Connected during the month.....	6	13	8	27
Total.....	2,434	4,138	499	7,071

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

SEPTEMBER, 1925

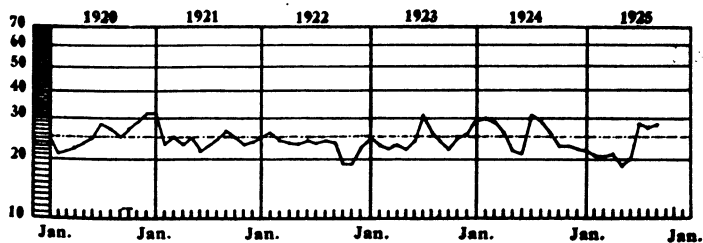
No. 9

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

SEPTEMBER, 1925

No. 9

THE KAHN TEST IN LEPROSY

(A Preliminary Note)

By M. V. ARGUELLES, M.D.,

*Medical Inspector P. H. S., Bacteriologist, San Lazaro Hospital,
Manila, Philippine Islands*

The view is generally accepted that the results obtained in the examination of serum by the complement fixation test of Wassermann and by the flocculation test of Kahn agree very closely. Dettweiler,¹ Strumia,² Young,³ Dulaney,⁴ Keim and Wilde,⁵ Ide and Smith,⁶ and Holmes⁷ have compared the results of the two tests in syphilis and found very close agreement in the results. Holmes found that the Kahn test has a greater sensitivity than the Wassermann test. (See tables I, II, and III.)

There is a general impression that the serum of leper patients give in few cases positive Wassermann test. Bloomberg⁸ first drew attention to the possibility that the positive Wassermann reaction in leprosy may be due to the concomitant presence of either syphilis, or yaws, or both. Kolmer and Denny⁹ performed the Wassermann test with various anti-

¹ H. K. Dettweiler, Jour. A. M. A. 81, 815, 1923.

² M. M. Strumia, Arch. Derm. & Syph. 8, 50, 1923.

³ C. C. Young, Am. Jour. Pub. Health, 13, pp. 16-99, 1923.

⁴ A. D. Dulaney, Am. Jour. Pub. Health 13, pp. 472-474, 1923.

⁵ Obtained from Stitts "Practical Bacteriology, Bloodwork and Animal Parasitology, 7th Ed. 1923.

⁶ P. Ide and Smith, G. Arch. Derm. & Syph. 6, 770, 1922.

⁷ J. A. Holmes, J. A. M. A. 81, 294, 1923.

⁸ Kolmer and Denney, Arch. Derm. & Syph. 8, 1923.

⁹ Cited by Kolmer and Denney in Arch. Derm. & Syph. 8, 1923.

gens, and the Kolmer¹⁰ modification test of Wassermann in 159 cases of leprosy. They obtained 17 per cent. (27 cases) positive reaction with the Kolmer modification test of Wassermann and 22 per cent. (36 cases) positive reaction with the old Wassermann test. Of the latter number, 27 showed evidences of the presence of syphilis giving a balance of 9 cases or 7.32 per cent of positive reaction by the old Wassermann test but in which no evidence of syphilis could be found.

The present paper gives a comparative results of the Wasserman test as performed in the Bureau of Science, Manila, with the Kahn test¹¹ (modified by Rappleyea) as performed in the San Lazaro Hospital Laboratory.

One hundred nonleper sera were obtained from the Venereal Clinic and Out-Patient Department of the San Lazaro Hospital. These sera were tested both for the Wassermann test as performed in the Bureau of Science, and for the Kahn test (Rappleyea) as performed in the San Lazaro Hospital Laboratory. In the sera giving negative results, there was an agreement of 93 per cent, and in those giving positive results there was an agreement of 93.10 per cent. These results compare favorably with those obtained by other workers, and this being the case it was considered that the technic of the Kahn test (Rappleyea) as performed at San Lazaro Hospital Laboratory was reasonably constant, sensitive and reliable.

One hundred leper sera obtained from the leper patients and leper suspects, San Lazaro Hospital, were tested for the Wassermann test and for the Kahn test. These cases consisted of 19 leper suspects (having suspicious clinical manifestation but showing no bacillus leprae in the microscope), 81 confirmed lepers (73 nodular cases, 1 macular and 7 mixed cases). There were 80 males and 20 females. The duration of the disease ranged from several months to 10 years. One case was 21 years in duration, and there were two cases whose duration was unknown but the patients stated that they had the lesion for "many years." The ages ranged from 7 to 65 years.

One hundred leper and leper suspect sera were examined. The results minus (—), plus-minus (\pm), and one-plus (+) were considered under the general heading of negative and two-plus (++) or more under the general heading of positive. Of 100 such sera, 93 were Wassermann negative. Of this number,

¹⁰ Kolmer, *Am. Jour. Syph.* 6, 82; 496, 1923.

¹¹ G. W. Rappleyea, *Military Surgeon* 56:3 (Feb.) 1925.

5 were Kahn positive (Cases Nos. 29, 36, 41, 75, and 96 had negative history of syphilis while case No. 84 had suspicious syphilitic history). There were 92 Kahn negatives of which 3 were Wassermann positive (Cases Nos. 18 and 80 have suspicious history of syphilis and case 74 have a positive history of yaws).

There were 5 Wassermann positives of which 2 had a syphilitic history, 2 had a history of yaws and one had no history of either. There were 8 Kahn positives of which 2 had a history of syphilis and one a history of yaws while the remaining 5 have no history of either.

Summarizing, there was one serum giving positive Wassermann and 5 sera giving positive Kahn without any history or clinical manifestation of either syphilis or yaws.

Of 19 leper suspects, 18 were negative and one was positive for the Kahn (Case No. 98 with positive history of yaws). Of these suspects, there were 17 Wassermann negative and 2 positive (Case No. 98 with positive history of yaws and case 18 with suspicious history of syphilis). Sixty-seven of the 73 nodular cases were Kahn negative and 6 Kahn positive (Cases Nos. 29, 41, 75, and 96 with negative history of syphilis and case 53 with suspicious history of syphilis and 84 with a positive history of syphilis). Of the nodular cases, 68 were Wassermann negatives, 3 positive (Cases Nos. 74 yaws, 53 and 80 suspicious syphilis) and 2 anticomplementary.

One macular case was negative both to Kahn and Wassermann tests.

Six of the 7 mixed cases were negative to Kahn and one positive (Case No. 36 with a negative history of syphilis). All the seven mixed cases were negative to Wassermann.

In this series no definite relation was noticed between the Kahn or Wassermann tests and the duration of disease, or the sex of the patients.

SUMMARY AND CONCLUSIONS

1. One hundred leper and leper suspect sera and 100 nonleper sera were tested by the Wassermann test and by the Flocculation Test of Kahn (Rappleyea).
2. There was a very close agreement in the results of the Kahn and Wassermann tests with a slight sensitiveness in favor of the Kahn test.
3. The Wassermann and the Kahn tests in leper patients are generally negative.

4. There was observed in 1 per cent of leper and leper suspect sera positive Wassermann without any history or signs of syphilis or yaws. In confirmed leper sera the Wassermann was positive in 1.23 per cent of the cases without any signs or history of syphilis or yaws. Kolmer and Denny found that 7.32 per cent of nonsyphilitic leper sera gave falsely positive Wassermann.

5. Kahn test was positive in 5 per cent of leper and leper suspect sera without any signs or history of syphilis or yaws. In confirmed leper sera the Kahn test was positive in 6.17 per cent of the cases without any sign or history of syphilis or yaws.

6. As far as lepers are concerned, the (negative) Kahn test is of greater value than the Wassermann test in establishing a negative diagnosis of syphilis or yaws and of lesser value in establishing a positive diagnosis.

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TABLE I.—*Comparative results of complement fixation test and flocculation test of Kahn (Various authors)*

Authors	Number of specimens	Agreement per cent	Relative agreement per cent	Non-agreement per cent	Remarks
1. Dettweiler.....	2,000	94.2			Wassermann.
2. Strumia.....		90.0			Kolmer.
3. Young.....	8,070	93.754	5.853	0.892	Wassermann.
4. Dulaney.....	900	87.77		12.23	Wassermann.
5. Arguelles.....	100	93.00		7.00	Wassermann.

TABLE II.—*Comparison of complement fixation and flocculation reaction in syphilis (Strumia)*

Flocculation tests	Sera tested	Complement fixation		Flocculation reactions			Agreement
		Positive	Negative	Positive	Negative	Doubtful	
		Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Kahn (cholesterolized antigen)....	624	41.0	59.0	49.8	48.2	2.0	83.4
Kahn (plain antigen).....	566	40.0	60.0	30.4	65.5	4.0	82.7

TABLE III.—*Comparative result of Wassermann and Kahn tests (Keim and Wile)*

Type	Number of specimens	Agreement	Remarks
		<i>Per cent</i>	
Primary syphilis	350	66.6	Remaining 33.3 per cent sensitive- ness favorable to Kahn.
Secondary syphilis		53.3	Remaining 46.6 per cent sensitive- ness favorable to Kahn.
Others remaining		46.6	Sensitiveness favorable to Kahn.
Cerebro-spinal syphilis		45.0	Remaining 55 per cent sensitiveness favorable to Kahn.
Latent syphilis		76.3	Remaining 23.7 per cent sensitive- ness markedly favorable to Kahn.
Tertiary syphilis			Sensitiveness markedly favorable to Kahn.
Congenital			Sensitiveness markedly favorable to Kahn.

PHYSICAL EDUCATION

By FELINO SIMPAO, M.D.

Philippine Health Service

Any State aspiring for a seat in the assembly of civilized nations has it as its primordial duty to make its inhabitants sound and strong. A State whose inhabitants exclude physical education entirely from its institutions, not only despises and misuses part of its vital interests, but also makes itself tyrant in its government and monarchical in its acts.

Quiet or repose does not always mean economy of vigor. For, when it is an obligatory quietness (immovability of the body), it is a cruel punishment invented by human malignity and an endless torment, as is hunger, which, in the long run, dulls even the keenest insight of intelligence and concludes with diminishing effect the very strength of life.

Movement insures the development of organism. Life is but one of the links which concatenate themselves and, at a rithmical beat, move in unison with those acts physiologically called functions. For this reason, more than science is physical culture with respect to the ulterior development of the body, it being a beneficial means and a positive factor insuring the solution of the great problem of population.

According to biological laws, organic diseases are transmitted from father to son. A sickly father begets degenerate sons; but when such diseases are not contracted by the child in its embryonic state, this possible transmission of organic diseases from father to son may be prevented by means of physical culture.

Woman's V-shaped thorax, acquired by the use of corset; the Chinese women's diminutive feet which, for numberless years, have been considered a proof of conyugal fidelity; the exclusive type of craniums of the Aztecs of which they so ridiculously feel proud;—all of these could not have been obtained, if their habits practised for thousands of years had been superseded by this education.

The "clubfoot" or talipies form of the feet of the Saxon race; the abnormal curvature of spinal column, commonly seen in sickly infants, and other similar deformities, could have well

been corrected by the implantation of physical culture, a preventive remedy to children's diseases.

Physical culture has its greatest beneficial effect on a person in the period of his growth. The maximum physical development of children takes place while they are in schools: There should, therefore, be established special rules, which must be carefully followed and observed with much perseverance, to make a child's organism as strong and as enduring as that of a grown person.

According to Spitzzy, it is our duty to listen to the commands of Nature; for neither the teacher nor the doctor is Her master: both are mere executors of Her biddings.

Leaving for one moment the question of a child's physical development, its nourishment and other phases of its life to look into its life in schools; when it is innocent itself,—the teacher must bear in mind that the school is to the child a not-to-be despised sum of harmful influences and injurious incidents, considering the definite attitude it must assume according to school disciplines, which are fatally hurtful to its organism as shown by the symptoms of illness, sleepiness, weariness, and fatigue. The teacher, therefore, must not lose sight of these psychological moments which, like an open book, pass in review before his very eyes, and must not forget that the necessity of movement of a child's organism is superior to the child and to its ductile will; and that all elements of education is to the child a titanic struggle to which it so easily succumbs.

What ancient Athens combated against in her peripatetic schools were the continuous sitting of students in a reduce space of schoolrooms, due, no doubt, to lack of funds, and weariness without justifiable motive; these constitute a living peril to children, much more now that the thirst for knowledge among our people is increasing and taking gigantic strides. These perils depend upon the duration of continued (harmful) practice of sitting; and, for this reason, it becomes imperative that physical culture be made a part of education as early as possible.

In the Philippines, we have apparently solved this problem, though not all school directors are well versed in this matter as to be an authority on it; for, on various occasions, has been designated for such a position technical advisor wholly unacquainted with the physiology of human body development, an essential part of education.

Gentlemen of the assembly! You are now gathered here with the view to elevating the standard of the Department of Education. Our mother Philippines places in your hands a hopeful future of her sons. If, as Minerva's faithful disciples, you desire to comply with your sacred mission, you must know that the teaching of sports by right becomes a part of education which must be uniformly regulated by this assembly, for, under your direction, physical culture may be carried well, all possibility of the pupil's taking part in all kind of professional competition, such as boxing, avoided, and assurance, given to parents for the security of their children delivered to your care to make of their flexible form not only a pedestal capable of withstanding all kind of weight and storm, but useful to themselves and to the society of which they will inevitably form a part.

What is physical education? The phrase defines it to be the knowledge everybody must possess to have his organism freely and easily do its works of development and perform its functions concerning its vitality. As you all know very well, the question of school hygiene is both important and complex, as it deals not with a definite field of learning but with economic, scientific and philosophical science, the rapid development of which has much to do with the invigorization of races that they may become their Creator's true image which He intended them to be, when He made them to populate the world He then created.

Among the many important questions involved by this science of school hygiene I shall choose that which deeply interests society now-a-days and for which Greece and Rome distinguished themselves for so many years,—I refer to athletics; for this question is what intimately connects the Bureau of Health with the Bureau of Education; and it may well be said that hygiene is now being inculcated in the minds of all, serving as a ray of light which fills with its splendor the chaos created by (obscurantism).

The importance given to physical culture in the schools has changed according to the necessities of various epochs of history. From the time of John Jacob Rosseau, the first paladin of physical culture, to the establishment of the "Filantropium" by John Bernard Basedow in the City of Desa, the teaching of physical culture was made to alternate with that of intellectual work in the schools. But, like any other new but difficult enter-

prise, it certainly had its favorable and unfavorable changes: now as the most important part of education everywhere, now its complete elimination from the subjects taught in schools. However, after a period of time, the State and society as well recognized the necessity of establishing gymnasium, not only to invigorate the depressed spirit of citizens resulting from the struggle for existence, but also to improve sanitary conditions.

After all obstacles have been overcome, and the difficulties, eliminated, there has been introduced, to compensate the struggle for its introduction, a regulation saying: PHYSICAL EXERCISES MUST BE MADE A NECESSARY AND INDISPENSABLE PART OF EDUCATION, AND SUCH IDEA MUST BE INTRODUCED INTO THE EDUCATIONAL PLAN OF PUBLIC SCHOOLS. Thus, in view of this new revival of thirst for education, the importance of physical culture has been more and more appreciated by governments, and it may justly be said that in the Philippines, physical culture is now considered one of the most important activities of the Department of Public Instruction.

According to classical works, there existed two systems of physical culture: the German and the Swedish systems. The former included all infantile games and deports, the latter, all hygienic games and sports. In their pedagogical aspects, both systems have a series of instructive procedure which facilitated their easy adaptation by the physical condition of the person adopting either. But the features which formerly distinguished one system from the other have now disappeared; and what now a days is known as German system is the group of those games needing no apparatus in their execution, such as posture exercise, trunk movement, agility, running, jumping, walking, and swimming; while those of the Swedish system includes of throwing weights, using of dumbbells, rings, parallels, wooden-horse, etc., bicycling, skating, horse riding, tennis, fencing, etc.

I do not deem it necessary to describe every one of these games; for the teachers' manual, compiled and published by Mr. Frederic O. England, explains each and the time and method which should be observed by each class, grade, and sex. However I shall permit myself to indicate an important point: the plan for these exercises must be followed carefully, methodically and intelligently and in accord with the physical condition of the person taking them, when he does so during the period of his growth. Furthermore, when these exercises are done in schools,

the body must assume a natural but beautiful posture to increase strength, capacity to do the work and endurance of parts of the body, thus assuring the acquisition of energy so that self-confidence and will power may thereafter be obtained. It may be added that the distribution of, and the time for, this work must be adapted to the conditions of the object for which it is done, avoiding all possibility of great weariness resulting therefrom, thus procuring that those needing great expense of energy be done before others; for great fatigue generates poisoning difficult to cure. To obtain greater success from physical culture, there must exist an intimate relation between teachers and pupils; and it would have more wholesome results, if the person performing it has an inclination to and interest in it.

The nations that have made physical culture a part of education have not as yet agreed as to time the work must be done and the time employed in it; but each of them believes in Hartwic's axiomatic saying that "Morning is for the soul and the afternoon, for the body"; for it has been discovered that only a little positive result is obtained from afternoon studies.

Besides, the appropriateness of the place for this education must be taken into consideration; for it is not enough to have locals wherein very often the circulation of air is insufficient, due either to the great number of pupils admitted, or to lack of proper ventilation. Thanks to the games held in open-air, in the parks and gardens, it is now proved that the children develop themselves better, eat and sleep well.

Exercises of simple position, those of inhaling and others needing no apparatus, may be taken alternately with those of intellectual instructions; and this practice should be observed specially when there is noticed in the children certain fatigue caused by monotonous classes held by the teachers.

It would be better if the teacher joined in these exercises, doing their part with interest and pleasure; for through this practice may be eliminated direction vices which only lead to unnecessary expenses of energy which sometimes results in pedantry. Furthermore, inasmuch as the Bureau of Education has not as yet Department of Orthopedy, which must choose the exercises each class must have and determine what is suitable to the energy of pupils, it is desirable that special, elementary rules for the teachers be made so that they may better understand the relation between organism and the physiology of its development, a fundamental question in physical education.

A professor well versed in physical education must teach it in an assembly of teachers, as has been advocated by our Governor-General before the assembly of school superintendents in Pines City. It is an indispensable necessity for the teachers to know of this their duty; for after the realization of the medical inspection of schools, which the Health Office proposes to make this year, extending it to the remotest barrio schools, the children may get diseases detectable only by means of living with them.

In Denmark, for example, officials do these exercises to which public school teachers are invited. In Germany, there is a central committee on Promotion of Infantile Games. In the United States, they have the Sargent School of Physical Education, the New Haven Normal School of Gymnastics and Battle Creek Sanitarium in Cornell University. Why should not we have such physico-scientific organizations here in the Philippines?

Another bad practice which may be remedied by the teaching of this education to teachers is that of the children's frequently feigning illness that they may be excused from taking physical education. There is no reason whatever why weak children should not be compelled to take this education: an elementary knowledge of the children's organism would be all that is necessary for one to discover that the children's alleged illness is only a pretext.

I will detain you no longer: I do not wish to absorb your invaluable time trying to have you listen to my disquisitions more of sanitary than academic; and I will not be the first to contradict that which I came here to suggest to you. But, before leaving this place of honor wherein you so generously placed me that I may have the privilege of addressing you, let me call your attention to the new kind of exercise now in vogue in the Philippines: that is the so-called excursion or picnic. This sport not only awakens in us appreciation and love of all that is beautiful in our native land, but gives us as well practical knowledge, which is easily engraven in our memory, to remain there forever. We now have an evident, palpable proof of the wholesome influence on organism; for, by two days' stay in Los Baños, the Red Cross, the generous and supreme mother of all Nations, succeeded in ameliorating the health of the sickly poor children taken by her to that place.

Without going farther, this very assembly proves my thesis conclusively; for this gathering here in Lipa, once an emporium of wealth and wisdom, where we now are enjoying its beautiful sceneries and valleys; its air impregnated by ilang-ilang perfume purified by Ozone; its crystalized waters emanating from its brooks like fibers of abaca in its woods; the fragrance of its flowers; the rich dews of its sugar-cane; the innocent looks of its young ladies; the melodious sound of trobadours' guitar, not only will give us energy to renew our work with much vigor and activity, but also inspire us that sublime love, the love which finds echo only in the sanctuary of our hearts, the divine name of our beloved Philippines.

I Thank you.

FRAMBOESIA

By LORENZO FERNANDEZ, M.D.

President, Sixth Sanitary Division, Province of Rizal

Definition.—Framboesia or yaws is a contagious, inoculable disease characterized by an indefinite incubation period followed usually by fever, rheumatic-like pains, and the appearance of papules which generally develop into a seton-like, encrusted, granulomatous eruption.

PREDISPOSING CAUSES

As in the case of other infectious diseases, dirt, food, and other insanitary conditions favor to a certain extent the development and dissemination of the disease. Among the foods contributing to the development of this disease, I can name *susu*.

Neither sex nor age, to any great extent has any influence on the development of yaws. But it is noted that yaws is frequently met in children and young people. The native practitioners of Ceylon are inclined to ascribe certain foods as important predisposing influence. Some incriminate a kind of fish called *balla mal* and a cereal known as *kurrakan* (Nutcher).

Balla mal is not known in the Philippines, but there may be some similar specimens, because the fishes in the Philippines and the fishes of India have many similarities. The *kurrakan* does not exist in the Philippines; but according to Dr. Leon Guerrero, there is in these Islands a fish, named in Tagalog *sabong-sabongān*, which is similar to *kurrakan*.

COURSE OF THE DISEASE

The course of the disease has been arbitrarily divided into three stages: the preliminary, secondary, and tertiary stages. Up to the present time there has not been reported an undoubted quarternary stage.

PRELIMINARY LESION

The preliminary lesion or mother yaws may appear in any part of the body.

The primary lesion may heal before the secondary eruptions appear, but as a rule it is still present when secondaries are

observed. On the other hand, the primary sore may last for several years.

SECONDARY LESIONS

According to the generally accepted view, the secondary eruptions are of two forms: the papules and the nodules. Our observation however leads us to believe that there are more than these two types of secondary stage of the disease.

The secondary eruptions are preceded by malaise, fever, pain in the muscles, joints and bones.

NODULAR LESIONS

The nodular form of eruption is the lesion most commonly observed in the disease. It was observed in the majority of our cases in accordance with the accepted view of the disease. This type of eruption is so well known and has been so well described that little can be added to its description. These eruptions may begin as small papules, *vide infra*, or they may appear as such from the beginning. When fully developed, they vary in size from the head of a match to that of a quarter of a dollar or larger. They are raised from the surface. The surface of the lesions are covered with a yellow scab. If the scab is taken off, the surface will be found raw, with minute bleeding points. These lesions may remain of the same size for a long time after which the secretion dries up and the lesion finally disappears in from three months to one year. These lesions occur in crups, each crup lasting as indicated above, followed by another crup; and this process may be repeated three or four times.

When these lesions are found on moist surfaces such as the genitals, anus, etc., the eruption then becomes a moist papule which is not unlike the moist papules of syphilis.

PALMAR AND PLANTAR LESIONS

Palmar and plantar lesions are also observed rather frequently; they are not unlike palmar and plantar syphilis.

The papular eruption may be the precursor of the framboes form of eruption. On the other hand they may remain papular throughout their entire existence. They have been observed oftener than the macular eruptions described below.

This type of eruptions is a flat papule, varying in size from a pin's head to a split pea. The apex is red when first formed, but later is covered with the typical yellow scab. The lesions are discrete. They may remain of the same size for weeks and finally disappear, or later develop into the typical framboetic

eruptions, occurring in the same places as the framboetic eruptions.

We have observed them next in frequency to the framboetic eruptions, and to occur in the same place as the framboetic lesions, though we have not observed them to occur around the genitals and palms.

Macular eruptions, on the other hand, do not precede any of the other types of secondary eruptions. They are primary eruption themselves, similar to the macular eruptions of syphilis. They are discrete macular eruptions lighter in color than the surrounding skin. They are round in shape varying in size from the head of a match to that of a lima bean or larger. The surface is covered with a fine brownish scale which is white in color and is easily detached. When the case is seen at the clinic, few of these scales remain; but closely packed around the hair follicles, they may be seen in acuminate heaps simulating follicular pinhead papules. They may remain as such for weeks, finally disappearing and leaving depigmented spots. Sometimes, however, papules or framboetic eruptions accidentally develop on the surface. We have not observed these types of lesions to occur at any definite time.

They may occur before other types of eruptions or they may be found occurring after the framboetic or papular eruptions have healed from insufficient injections of neosalvarsan. These eruptions are not rare nor are they commonly observed. Inexperienced observers might easily mistake them for pityriasis or other fungus infections. We have found this type of eruption to yield quickest to salvarsan.

Closely related to this type of eruption is an eruption which we have termed, for want of a better name, ichthyosis-like shins. There are found diffusely spread over the entire anterior portion of the skin, or in some cases around the leg, fine white or brownish white scales, with the natural lines of cleavage of the skin much pronounced. The scales are more adherent than the preceding type of eruption. Indifferently scattered over the surface may be found pin-head papules. This type of eruption is not common. It may be found in association with the other types of eruption mentioned.

TERTIARY ERUPTION

The disease may end with the disappearance of the secondary eruptions. On the other hand after these disappear or are found with the secondary eruption, the tertiary lesion may be observed.

The tertiary lesions generally described in literature are the bone lesions and gummata. Plantar lesions or foot yaws have also been described by Howard.

BONE LESIONS

These are cronic periostitis or nodules under the periosteum. According to Maul these nodules may be found in the cortex of the bone sometimes forming sinuses from the center of the bone. In most cases, however, the nodules are found underneath the periosteum which may be perceived underneath the skin. Long bones seem to be more prone to these lesions, though other bones are not immune. These lesions are painful, and disabling to the patient.

GUMMATA

These types of lesions simulate the gummatous formation of the tertiary stage of syphilis, and it may be difficult to differentiate them from the latter. They are indolent ulcers covered with yellowish brown scabs, involving the subcutaneous tissue. The edges are clear out; if the scab is taken off, the foundus will be found granulating. Both of the cases shown in the figure yield to a single injection of salvarsan.

KERATOSIS

This is the commonest lesion found in the tertiary stage of the disease and the one least known. Different appellations have been given to it. Castellani calls it a peculiar pitted appearance of the hands. Howard knows it by the name of foot yaws and still others call it clavus. It is commonly known in Tagalo as *tibak*. As observed by Castellani, the lesions may be seen in the later stage so that the individual suffering from it may have forgotten entirely the connection between it and the yaws they had in childhood. In some of our cases a history of yaws was contracted in childhood and this lesion did not appear till the patient reached the adult age, or about 15 years after the yaws lesion had disappeared.

I believe that I have already described all known types and stages of the disease in question, so that now it is fitting to give a brief account of the activities of the officers of the 17th Health District toward eradicating this disease, at least from the Province of Rizal.

A LITTLE STORY

During the campaign undertaken against tropical ulcers in the middle of the year 1921, and during the medical investiga-

tions I conducted within my division—composed of Parañaque, Las Piñas, and Muntinlupa,—I found many cases of yaws which obliged me to bring this fact to the attention of the District Health Officer. I could not be sure of the action that would be deserved by my report to that official, but it is the truth that sometime after that I received an order to prepare a census of all the persons who were suffering from such disease. Then the work of taking the census was begun without delay and on September 10, 1921, a clinic exclusively for yaws was opened to the public.

This clinic was established in Dongalo, barrio of Parañaque, where a large number of persons with yaws were found. It was opened in the center of the poblacion, in a private native house with a capacity for 15 persons, and with a suitable Antipolo toilet system and beds.

It was also provided with utensils from the Central Office in Manila and from the 17th Health District Office as required for the proper operation of the clinic.

The clinic as conducted by the District Health Officer, Dr. Perpetuo Gutierrez, the speaker, with the aid of a District Nurse and a Provincial Sanitary Inspector; and during the clinic hours we obtained the valuable coöperation of Doctors Selliard of the Bureau of Science and Goodpasture of the College of Medicine of the University of the Philippines.

TREATMENT USED

The doses given to our cases varied with the age and the weight of the individuals. In general the dose given was calculated at 0.10 centigram of Neosalvarsan for every 25 pounds of weight in children. However, we gave larger doses in proportion to the average adult. The usual precautions observed before the treatment in syphilis were carried out in the first day of our clinic, but at the present time we do not follow the same method, and only keep the patient fasting. We are glad to say that no serious accident occurred. There were no serious reactions such as the *nititoid* or *hexheimer's*; and only vomiting and slight fever for a few hours were observed by us although the administration of neosalvarsan requires experienced hands.

On July 17, 1922, the yaws clinic was transferred to the public dispensary of Parañaque, under the charge of the speaker as supervised by the District Health Officer with the coöperation of a District Nurse and Provincial Sanitary Inspector. Thence we set aside three clinic days a week (Tuesday, Thursday, and

Saturday) and from 8 to 12 A. M. on every clinic day. According to this arrangement we had had 41 clinic days from September 26 to December 31. Twenty-eight persons were treated every clinic day or one person every 11 minutes.

In 1921, typical cases of yaws were the only ones treated, but during 1922 all yaws stages as well as other forms derived from this disease such as keratosis, etc., were also treated and cured.

Since the yaws clinic was opened, the municipalities that have supplied patients thereto are Parañaque for the great majority, Las Piñas, Caloocan, Pateros, Muntinlupa, Taguig, Pasig, and various others as Malabon and Navotas.

I can also say that Rizal is not the only province receiving the benefits of this campaign, for we have treated and cured in the clinic and we are now treating and curing patients from other provinces.

Recapitulating, let me give you the exact number of cases cured, improved, and still under treatment since the beginning of the clinic until May 15, 1922.

TOTAL NUMBER OF PERSONS TREATED: 2,956. TOTAL NUMBER OF INJECTIONS: 3,529

1,762 papular form: cured, 472; improving, 119; the remaining are under treatment.

122 macular form: cured, 19; improving, 33; under treatment, 65.

178 nodular form: cured, 41; improving, 42; under treatment, 94.

894 keratosis form: cured, 97; improving, 348; under treatment, 402.

We are almost very sure that after the completion of the treatment the remaining cases will be totally cured as desired.

PROVINCIAL NOTES

ALBAY

Dr. J. T. Chaves has made a survey of 4,850 children of pre-school age, in eleven towns and 26 barrios. Of this number, 4,078 or about 85 per cent were found with positive vaccination scars.

The hookworm campaign was continued in the municipality of Albay during the entire month, there having been examined 1,682 persons, of whom 1,543 or 92 per cent had intestinal parasites of one kind or another, 862 or 51 per cent hookworm; 1,095 or 65 per cent ascaris; and 556 or 33 per cent trichuris.

CEBU

The medical examination of school children during the month was continued in the City of Cebu. A total of 5,065 school children was examined, including a survey for intestinal parasites. The total number of faeces examined was 121 with 119 positives and 2 negatives. In connection with the examination of school children, injections against cholera and typhoid fever were performed and a total of 5,065 injections was given.

The anti-cholera and anti-typhoid vaccinations were continued during the month by district nurses and in the municipality of Argao, three district nurses were sent to perform vaccinations on people attending the town fiesta. A total of 1,242 was vaccinated.

Smallpox vaccinations were continued during the month and a total of 6,841 was performed during August with 3,389 positives.

COTABATO

The yaws campaign appears to be still well supported by the non-Christians. A request from Datu Mantawil of Kabacan had recently been received soliciting that a man be assigned to go to his place for this purpose. The *bilanes* and *tagabiles* around Sarangany Bay are surprised at the marvelous effect of the treatment. A request had also been received from leading men in that community to conduct a similar campaign at their place who guarantee that plenty of yaws patients will call at

the clinic. In the clinics of Cotabato, Glan, and Pikit, there were treated 450 cases, 15 Christians and 435 non-Christians.

JOLO

There were 1,096 school children inspected during the month.

NUEVA VIZCAYA

Anti-smallpox vaccinations have been performed in all the municipalities of this district, and of 1,274 persons vaccinated, 1,212 have been inspected with 576 positives.

ILOCOS NORTE

Goiter prevalence is as follows: Solsona, 225; Dingras, 52; Trachoma findings during the month: Badoc, 40 cases and 22 treated; Bangui and Burgos, 293 cases and 280 treated; Nueva Era and Banna, 40 cases, no treatment given as yet. In Laoag, Sarrat, and Badoc, 59 cases of yaws were treated. In Laoag, there were 175 cases of trachoma and 163 treatments were given.

LA UNION

During the month, the health personnel had performed 2,301 vaccinations against smallpox, with a total of 816 positives.

A total of 1,773 persons had received first injections with mixed vaccines and 1,794 second injections.

ALBAY

The Bicol Health Officers' Assembly was held here on September 7th, 8th, and 9th, there being 30 in attendance as follows: From Manila: Dr. Jacobo Fajardo, Dr. Gabriel Intengan, Dr. Felipe Arenas, Dr. Regino Padua, Mr. Manuel Mañosa, and Dr. Pedro Joven; from Sorsogon: Dr. Jose Vidal. Dr. Vicente Z. de Jesus, Dr. Tomas Clemente, and Dr. C. M. Marasigan; from Camarines Sur: Dr. B. P. Caro, Dr. A. T. Hernandez, Dr. G. Villaluz, Dr. V. Villanueva, Dr. J. Lorenzo, and Dr. J. Alvarez; from Camarines Norte: Dr. Manuel Arambulo and Dr. Hipolito Balon; from Masbate: Dr. L. B. Gomez; from Albay: Dr. Shannon Richmond, Dr. J. T. Chavez, Dr. Esteban Ante, Dr. Esteban Buenviaje, Dr. Julian Oyales, Dr. Ramon Obed, Dr. Luis Monreal, Dr. Prudencio Papa, Dr. Antonio Diaz, Dr. Milton Solano, and Dr. Francisco Imperial.

ILOCOS NORTE

Doctor Medina reported for duty on September 28 and was directed at once to proceed to Sarrat. Doctor Arreola is now in Dingras since September 7, assuming the duty of President of Sanitary Division therein, pursuant to the telegram of the Director approving this transfer.

LAGUNA

The District Health Officer, F. Velez, and Sanitary Engineer A. Diaz of the central office visited San Pablo to remedy the difficulties encountered in the operation of the municipal garbage crematory.

LEYTE

Provincial hospital.—During September, a greater number of patients had been admitted compared with the preceding months. The majority of the cases admitted were medical. Among surgical cases admitted were seven tonsillities which were all operated on and one hematoma of the forearm, also operated.

The hospital dispensary had a few patients, the total attendance being 32, with 242 treatments.

During the month the following changes in the personnel have taken place:

Miss Socorro Morante, appointed Hospital Nurse.

Miss Encarnacion Barrantes, Hospital Attendant, dismissed.

Mr. Deogracias Lustre, Operating Room Nurse, transferred.

Mr. Federico Janaysay, appointed Operating Room Nurse.

There were three deaths registered in the hospital during September. Two due to typhoid fever, and one due to beriberi. No autopsy performed.

RIZAL

Cholera situation.—Sanitary measures were taken to eradicate cholera.

The municipalities inspected were Marikina, Navotas, Caloocan, Montalban, Pasay, Morong, Parañaque, Makati, Las Piñas, San Juan, and San Felipe.

ZAMBOANGA

General hospital.—During the month, a total of 568 new cases was admitted with an average daily admission of 18 patients. Two thousand six hundred seventy-seven cases were treated, with an average daily attendance of 89 cases for the out-patient

department. There were five obstetrical calls, 37 ambulance calls, and 104 patients visited outside. Twenty medico-legal, 4 births, and 6 death certificates were issued during the month. A total of 72 operations, 2 major and 70 minor, was performed for this month for both the in-and-out-patient departments.

Of the contagious diseases, influenza and gonorrhea were the most prevalent. The reason for the increase of influenza was due to the presence of sporadic outbreaks of this disease during the month. Registered and clandestine prostitution were responsible for the marked increase of gonorrhea in the locality.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of September, 1925]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR, 1925¹

BY NATIONALITIES

Nationality	Population
Americans.....	8,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,840
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,820
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, SEPTEMBER, 1925**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8:00 a. m. mean	2:00 p. m. mean
	mm.	°C.	°C.		°C.		°C.	
1-10.....	756.88	26.4	31.2	5, 10	23.0	8	29.1	29.3
11-20.....	58.70	26.0	32.6	20	22.3	17	28.4	28.6
21-30.....	58.64	27.1	33.0	22	22.8	24	29.5	29.8

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	87.7	92.6	8	81.5	10
11-20.....	86.3	91.0	14	82.5	19
21-30.....	83.9	88.5	23	81.1	25

Date	Prevailing direction	Wind			Atmidometer (°) (open air)		
		Velocity					
		Total	Daily total maxi- mum	Day	Total	Daily maxi- mum	Day
		Km.	Km.		mm.	mm.	
1-10.....	SW	3,290.0	716.0	4	18.4	4.1	4
11-20.....	SW	2,855.0	563.0	12	24.8	4.0	19
21-30.....	E, SW	1,456.0	252.5	28	30.0	4.0	22, 28

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	21 00	6 15	5	149.6	9
11-20.....	33 20	9 00	19	149.2	6
21-30.....	63 05	8 35	27	24.8	4

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the observatory park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY
OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	11	13	24	93.23
Filipinos.....	640	656	1,296	55.19
Spaniards.....	4	2	6	37.36
Other Europeans.....	3		3	32.44
Chinese.....	30	34	64	43.64
All others.....	2	4	6	33.42
Total and average.....	690	709	1,399	54.57

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, Meisic:							
1. Tondo.....	178	189	367	15	14	29	396
2. San Nicolas.....	54	50	104	2	2	4	108
3. Binondo.....	20	19	39	2	1	3	42
Total.....	252	258	510	19	17	36	546
No. II, SAMPALOC:							
4. Santa Cruz.....	81	86	167	7	6	13	180
5. Quiapo.....	12	26	38		2	2	40
6. San Miguel.....	8	5	13	2		2	16
7. Sampaloc.....	107	95	202	12	10	22	224
Total.....	208	212	420	21	18	39	459
No. III, PACO:							
8. Port Area.....							
9. Intramuros.....	39	41	80	1	5	6	86
10. Ermita.....	41	34	75	2		2	77
11. Malate.....	46	59	105	4	4	8	113
12. Paco.....	26	33	59	5		5	64
13. Pandacan.....	11	12	23				23
14. Santa Ana.....	15	15	30		1	1	31
Total.....	178	191	372	12	10	22	394
Grand total.....	638	664	1,302	52	45	97	1,399

Attended by physician, living, 446; Stillbirths, 25.

Attended by midwife, living, 110; Stillbirths, 1.

Attended by family, living, 843; Stillbirths, 22.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	3	2	5	19.42
Filipinos.....	345	333	678	28.87
Spaniards.....				
Other Europeans.....				
Chinese.....	33	3	36	24.65
All others.....	3		3	16.71
Total and average.....	384	338	722	28.16

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	119	106
Divorced.....		
Widowed.....	27	55
Single.....	315	231
Condition not stated.....	2	1
Total.....	463	393
Grand total.....	856	

Stillbirths.....	48
Number of deaths with medical attendance.....	497
Number of deaths without medical attendance.....	859

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	103	84	12	5	204
1 year plus	40	42	3	4	89
2 years plus	24	23	1	2	50
3 years plus	11	9	3	1	24
4 years plus	9	12	2		23
5 to 9 years	14	11	6	3	34
10 to 14 years	5	8	2		15
15 to 19 years	14	10	9	3	36
20 to 24 years	13	14	6	2	35
25 to 29 years	24	18	6	8	56
30 to 34 years	9	13	4	6	32
35 to 39 years	14	19	5	8	46
40 to 44 years	9	8	4	3	24
45 to 49 years	10	10	5	2	27
50 to 54 years	25	8			33
55 to 59 years	20	4	1	1	26
60 to 64 years	9	6	3	4	22
65 to 69 years	6	5	2	1	14
70 to 74 years	7	9	1	1	18
75 to 79 years	6	9			15
80 to 84 years	5	4	1	1	11
85 to 89 years	3	2			5
90 to 94 years	3	2	1		6
95 to 99 years	1	7	1		9
100 years and over		1			1
Age not stated					
Total	384	338	78	55	855

One male Filipino, age and permanent residence unknown, not included in the above table.

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA. CLASSIFIED BY AGE GROUPS, SEXES, HEALTH, AND MUNICIPAL DISTRICTS

Age groups	Health districts													
	No. 1, Melale					No. 2, Sampaloc								
	No. 1, Tondo		No. 2, San Nicolas		No. 3, Binondo	No. 4, Santa Cruz		No. 5, Quiapo		No. 6, San Miguel		No. 7, Sampaloc		
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Under 1 year.....	36	29	15	5	2	1	10	13	2	1	4	2	14	9
1 year plus.....	11	15	1	8	3	2	4	5	1	1		1	6	6
2 years plus.....	9	10		2			1	1					6	3
3 years plus.....	4	3					1	2					3	3
4 years plus.....	4	7					1	1	1	1			3	3
5 to 9 years.....	6	4	1	1	1		1	2					2	1
10 to 14 years.....	2	2											1	5
15 to 19 years.....	4	3	2	1	1		1	1	1	1		1	1	1
20 to 24 years.....	2	4	4	1	1	1	5	2	1				4	2
25 to 29 years.....	5	5	2	1			3	2	1				3	2
30 to 34 years.....	3	5	1	2			4	3	1	2	1		2	1
35 to 39 years.....	3	4					4	2					2	2
40 to 44 years.....	2	4	1				3	2					2	2
45 to 49 years.....	3	3			2		5	1			1		2	2
50 to 54 years.....	6	2	2		3		2	1	1		1		2	2
55 to 59 years.....	3	3	3	3	1		1	3					2	2
60 to 64 years.....	1	5					1	2				1	1	1
65 to 69 years.....	2	4	1	1	1	1	1	1					1	1
70 to 74 years.....	2	2	1										1	1
75 to 79 years.....	2	1											1	1
80 to 84 years.....	2	2											1	1
85 to 89 years.....	2	2											1	1
90 to 94 years.....	2	2											1	1
95 to 99 years.....	1	2	1	1						1			1	4
100 years and over.....		1												
Age not stated.....														
Total.....	118	120	34	17	14	6	56	46	10	6	6	5	67	69
Grand total.....	238		51		20		102		16		11		136	

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH,
AND MUNICIPAL DISTRICTS—Continued

Age groups	Health districts												Grand total
	No. 8, Port Area				No. 9, Intramuros				No. 10, Ermita				Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Under 1 year.....													
1 year plus.....		1	5	3	4	4	5	8	2	4	3	4	103
2 years plus.....			1	1	1	1	4	4	5	1	1	1	40
3 years plus.....							1	1	3		2		24
4 years plus.....										1		1	11
5 to 9 years.....													9
10 to 14 years.....													14
15 to 19 years.....													11
20 to 24 years.....													14
25 to 29 years.....													10
30 to 34 years.....													13
35 to 39 years.....													14
40 to 44 years.....													10
45 to 49 years.....													14
50 to 54 years.....													13
55 to 59 years.....													9
60 to 64 years.....													14
65 to 69 years.....													9
70 to 74 years.....													10
75 to 79 years.....													8
80 to 84 years.....													25
85 to 89 years.....													8
90 to 94 years.....													20
95 to 99 years.....													4
100 years and over.....													6
Age not stated.....													15
Total.....	1	1	12	7	5	10	24	26	24	12	8	8	338
Grand total.....	1	1	19	15	50	36	11	722	384	5	6	5	722

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
159	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included):				2									2
	a. Congenital hydrocephalus													
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema			21	14					2				37
161	Premature birth: Injury at birth:													
	a. Premature birth (not stillborn)			2	2									4
	b. Injury at birth: (not stillborn)			1	1									1
162	Other diseases peculiar to early infancy			7	1									8
164	<i>XIII. Old age</i>													
164	Senility			5	21									26
165-203	<i>XIV. External causes</i>													
168	Suicide by hanging or strangulation									1				1
182	Accidental drowning			4	1					1				6
185	Accidental traumatism by fall			1										1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	a. Railroad accidents									1				1
	c. Automobile accidents		1											1
198	Homicide by cutting or piercing instruments			1						1		1		3
202	Other external violence			1						1				2
204-205	<i>XV. Ill-defined diseases</i>													
205	Cause of deaths not specified or ill-defined:													
	b. Not specified or unknown													
	Total	3	2	345	333					33	3	3		722
	Grand total	5		678						36		3		722

Causes of death

[illegible]

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
5. Malaria:						
a. Malarial fever.					1	1
9. Whooping cough.					1	1
11. Influenza:						
b. Without pulmonary complications specified.					2	2
16. Dysentery:						
c. Unspecified or due to other causes.					1	1
21. Erysipelas.					1	1
29. Tetanus:						
a. Umbilical.				5		5
31. Tuberculosis of the respiratory system.					3	3
32. Tuberculosis of the meninges and central nervous system.					2	2
38. Syphilis.	1					1
41. Purulent infection, septicemia.					1	1
55. Beriberi:						
a. Infants.				14	37	51
56. Rickets.					1	1
71. Meningitis:						
a. Simple meningitis.					1	1
86. Diseases of the ear and of the mastoid process:						
a. Diseases of the ear.					1	1
99. Bronchitis:						
a. Acute.				1	23	24
b. Chronic.					4	4
100. Bronchopneumonia:						
a. Bronchopneumonia.					24	24
b. Capillary bronchitis.					3	3
112. Other diseases of the stomach, (cancer excepted).					2	2
113. Diarrhea and enteritis.					21	21
119. Other diseases of the intestines.					1	1
128. Acute nephritis (including unspecified under 1 year of age).					2	2
159. Congenital malformations (stillbirths not included):						
a. Congenital hydrocephalus.					1	1
160. Congenital debility, icterus, and sclerema.	13	1		16	7	37
161. Premature birth; Injury at birth:						
a. Premature birth (not stillborn).	2				2	4
b. Injury at birth (not stillborn).				1		1
162. Other diseases peculiar to early in fancy.	5			3		8
Total.	21	1		40	142	204

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.	23,296
Number of rats caught by spring traps.	2,680
Number of cage wire traps set.	680
Number of rats caught by cage wire traps.	9
Number and kind of baits (coconuts).	23,976
Number of poison portions placed.	13,960
Number of rats found poisoned.	147
Number of rats killed by clubs and other weapons.	505
Number of rats found dead from other causes.	233
Total number of rats otherwise caught, found dead, or killed.	3,574
Total number of rats sent to the Laboratory for examination.	3,574
Total number of rats found positive for plague.	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF SEPTEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total				Grand total	
	Male			Female			Male			Female			Male		Female		Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases		
I.....	No. 1.....	6	1	4	3	1	1	1	2				7	2	6	3	13	5
	No. 2.....	7	1	2	1								7	1	2	1	9	2
	No. 3.....			1											1		1	
II.....	No. 4.....	9	3	1	1		2	1					11	4	1	1	12	5
	No. 5.....	2	1										2	1			2	1
	No. 6.....	1											1				1	
	No. 7.....	9	5	4		1	1		1				10	5	5	1	15	6
	No. 8.....																	
	No. 9.....	4		3	1								4		3	1	7	1
	No. 10.....	2		4	1		4	1					2		4	1	6	1
III.....	No. 11.....	2	2	5	2		2	2					2	2	5	2	7	4
	No. 12.....	5	2	2									5	2	2		7	2
	No. 13.....			1											1		1	
	No. 14.....	1											1				1	
	Transients.....	11	5	8	4								11	5	8	4	19	9
	Total.....	59	20	35	13	4	2	3					63	22	38	13	101	35

REMARKS:

Total cases reported within the month in the City of Manila.....	108
Resident cases.....	88
Nonresident cases.....	20
Foreign cases.....	0
Total deaths reported within the month in the City of Manila.....	35
Deaths among resident cases.....	26
Deaths among nonresident cases.....	9
Deaths among foreign cases.....	0
Total cases confirmed as typhoid fever.....	99
Cases confirmed as paratyphoid fever.....	2
By autopsy.....	0
By blood culture.....	3
By vidal reaction.....	12
By urine examination.....	0
By feces examination.....	0
By clinical symptoms.....	84
Total cases not confirmed.....	7

Typhoid Carrier—None

DYSENTERIES REPORTED DURING THE MONTH OF SEPTEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	4	3	1	1	1	1	3	3	4	1	4	4	8	7
{No. 1.....													1	1
{No. 2.....													4	3
{No. 3.....													4	3
{No. 4.....	1	1	1	1	1	1	1	1	2	2	2	1	4	3
{No. 5.....														
{No. 6.....	2	1	1	1	2	2	1	1	4	2	2	1	6	3
{No. 7.....													1	1
{No. 8.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1
{No. 9.....													2	2
{No. 10.....					1	1	1	1	1	1	1	1	3	1
{No. 11.....			2	1	1	1			1	1	2	1		1
{No. 12.....														
{No. 13.....			1	1										
{No. 14.....	3	1	1	2					3	1	1	2	4	3
Transients.														
Total.....	11	5	6	4	6	6	7	7	17	11	13	11	30	22

REMARKS:	33
Total cases reported within the month in the City of Manila.....	33
Resident cases.....	28
Nonresident cases.....	6
Total deaths reported within the month in the City of Manila.....	22
Deaths among resident cases.....	19
Deaths among nonresident cases.....	3
Total cases not confirmed as dysentery.....	3
Dysentery Carrier—2	

CHOLERA REPORTED DURING THE MONTH OF SEPTEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....	14	5	14	1	14	5	14	5	14	1	28	6	
	No. 2.....	4	1	3	1	4	1	4	1	3	1	7	2	
	No. 3.....	1	1	1	1	1	1	1	1	1	1	1	1	
	No. 4.....	9	3	11	3	9	3	9	3	11	3	20	6	
II.....	No. 5.....	3	1	3	1	3	1	3	1	3	1	3	1	
	No. 6.....	8	1	1	1	8	1	8	1	1	1	2	1	
	No. 7.....	1	12	15	8	1	12	15	8	1	12	15	8	
	No. 8.....	25	6	6	6	25	6	25	6	6	6	40	20	
III.....	No. 9.....	6	..	..	..	6	..	6	..	..	..	6	..
	No. 10.....	..	..	1	..	..	..	..	..	1	..	1	..
	No. 11.....	3	..	7	2	3	..	3	..	7	2	10	2	
	No. 12.....	1	..	4	1	1	..	1	..	4	1	5	1	
	No. 13.....	..	..	..	..	..	..	..	..	..	..	..	..
	No. 14.....	..	..	..	..	..	..	..	..	..	..	..	..
Transients.....	27	9	26	10	..	..	27	9	26	10	53	19	
Total.....	94	31	82	27	..	..	94	31	82	27	176	58	

REMARKS:

Total cases reported within the month in the City of Manila.....	182
Resident cases.....	129
Nonresident cases.....	53
Foreign cases.....	0
Total deaths reported within the month in the City of Manila.....	58
Deaths among resident cases confirmed as cholera.....	39
Deaths among nonresident cases confirmed as cholera.....	19
Total cases not confirmed as cholera.....	6

Cholera Carrier—36

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF SEPTEMBER, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	16	6	4	5
Varicella.....	4	1		
Varioloid.....				
Smallpox.....				
Measles.....	3			
Whooping cough.....	1	1		1
Influenza.....	20	12	5	5
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	127	108	61	57
Tuberculosis of all forms.....	7	7	7	7
Beriberi, infantile.....	25	22	25	22
Beriberi, adult.....	3	1	3	1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	5		1	
Varicella.....	1			
Varioloid.....				
Smallpox.....				
Measles.....				
Whooping cough.....		1		1
Influenza.....	1	1	1	
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	1		1	
Pulmonary tuberculosis.....	30	26	16	12
Tuberculosis of all forms.....	1	3	1	2
Beriberi, infantile.....	3	1	3	1
Beriberi, adult.....				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR
THE MONTH OF SEPTEMBER, 1925**

Sera and vaccines	On hand September 1, 1925	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	365,000	500,000	865,000	480,000	385,000
Anti-dysenteric serum (ampoules).....	179	100	279	130	149
Anti-tetanic serum (units).....	620,000	194,000	814,000	384,000	430,000
Cholera serum (ampoules).....		5	5	5	
Cholera vaccine (c. c.).....	25,560	100,470	126,030	122,850	3,180
Dried vaccine virus (units).....	46,100	100,000	146,100	119,600	26,500
Fresh vaccine virus (units).....	6,000	234,000	240,000	170,400	69,600
Gonococcus vaccine (ampoules).....		100	100	100	
Mixed typhoid-cholera vaccine (c. c.).....	16,650	155,040	171,690	171,690	
Normal Horse serum (ampoules).....		21	21	21	
Streptococcus vaccine (ampoules).....					
Typhoid vaccine (c. c.).....	6,770	6,000	12,770	7,260	5,510

**REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA
DURING THE MONTH OF SEPTEMBER, 1925**

Health districts	Municipal districts	Vaccinations			
		Total vaccina- tions	Previously vaccinated		
			Never	Success- fully	Unsuc- cessfully
No. 1	Tondo	3,008	319	2,491	198
	San Nicolas	72	69		3
	Binondo	58	54		4
	Santa Cruz	1,781	123	1,656	3
No. 2	Quiapo	82	32		
	San Miguel	71	68		3
	Sampaloc	167	167		
	Port Area				
No. 3	Intramuros	57	50		7
	Ermita	54	50		4
	Malate	70	57		13
	Paco	3,507	81	3,408	18
	Pandacan	52	45		7
	Santa Ana	54	49		5
Total		8,978	1,164	7,554	260

Health districts	Municipal districts	Inspection of persons vaccinated							
		Under 1 year		1 to 4 years		5 years and over		Total	
		Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
No. 1	Tondo	308	10	41	7	91	212	440	229
	San Nicolas	65	5	8				73	5
	Binondo	17	5	4				21	5
	Santa Cruz	151	1	61	32	93	109	305	142
No. 2	Quiapo	18						18	
	San Miguel	17						17	
	Sampaloc	112	1					112	1
	Port Area								
No. 3	Intramuros	31	5					31	5
	Ermita	53	5					53	5
	Malate	87	9					87	9
	Paco	55	6	58	38	104	158	217	202
	Pandacan	25	8					25	8
	Santa Ana	18	9					18	9
Total		957	64	172	77	288	479	1,417	620

Vaccine Virus:

Received	11,000
Used	9,900
Remained	1,100

**ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA
DURING THE MONTH OF SEPTEMBER, 1925**

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.....	2,498		908		3,401	
	San Nicolas.....	1,629		255		1,884	
	Binondo.....	1,819		708		2,022	
	Santa Cruz.....	2,966		840		3,806	
	Quiapo.....	1,468		40		1,508	
No. 2.	San Miguel.....	982		518		1,500	
	Sampaloc.....	2,104		620		2,724	
	Port Area.....						
	Intramuros.....	1,937		1,087		3,024	
No. 3.	Ermita.....	1,274		1,031		2,305	
	Malate.....	1,031		685		1,716	
	Paco.....	626		320		946	
	Pandacan.....	287		208		495	
	Santa Ana.....	185		159		344	
Total.....		18,296		7,874		25,670	

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1925¹

Health districts	Municipal districts	Number of injection made in—										Total number of injections					
		Adu'ts					Children										
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1	Tondo	1,300	2,668	278	657	159	608	779	1,941	174	390	78	357	2,079	4,609	452	1,047
	San Nicolas	1,364	1,943	361	456	261	319	465	1,647	129	108	99	57	1,829	3,590	500	564
	Binondo	66	1,845	99	517	55	599	29	935	16	51	12	13	94	2,780	115	568
	Santa Cruz	1,264	1,982	210	684	166	632	736	715	124	337	166	582	2,000	2,697	334	1,071
	Quisapo	259	1,589	73	633	67	524	126	356	110	54	65	42	385	1,945	183	687
No. 2	San Miguel	17	649	11	309	4	221	2	202	1	105	2	53	19	851	12	414
	Sampaloc	1,318	1,394	394	883	273	819	724	1,648	187	126	85	105	2,042	2,942	571	1,009
	Port Area	150	77	77	77	52	52	106	106	53	53	40	40	256	256	130	130
	Intramuros	464	909	17	122	14	133	31	386	13	358	41	162	495	1,295	30	480
	Ermita	1,197	1,362	7	79	24	132	364	28	8	255	20	89	1,561	1,390	15	334
No. 3	Malate	314	637	70	454	37	379	119	433	34	157	17	84	433	1,070	104	621
	Paco	524	952	66	339	39	235	489	235	166	113	114	296	1,013	1,187	232	452
	Pandacan	147	68	55	55	61	179	40	40	12	12	18	26	326	108	12	67
	Santa Ana	8,233	16,148	1,586	5,265	1,099	4,715	4,043	8,572	974	2,179	717	1,906	12,276	24,720	2,560	7,444
	Total																

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V in persons never vaccinated before; R revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925 ¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	27,251	3,419	18,001	5,831
Agusan.....	2,453	613	814	1,026
Albay.....	29,131	7,596	8,249	18,286
Antique.....	7,855	3,876	2,123	1,856
Bataan.....	11,393	2,940	4,517	3,936
Batanes.....	748	207	232	309
Batangas.....	32,613	9,076	7,316	16,221
Bohol.....	145,574	28,939	78,766	37,869
Bulacan.....	143,176	23,852	110,159	9,165
Cagayan.....	32,268	5,340	14,516	12,412
Camarines Norte.....	5,136	1,685	1,498	1,953
Camarines Sur.....	130,412	14,821	89,748	25,843
Capiz.....	93,288	27,431	51,445	14,412
Catanduanes.....	8,410	2,327	1,553	4,530
Cavite.....	27,249	4,692	14,400	8,157
Cebu.....	70,903	21,665	17,125	32,113
Cotabato.....	15,562	4,767	14,810	5,986
Culion Leper Colony.....	328	27	220	81
Davao.....	4,924	2,125	1,168	1,631
Ilocos Norte.....	19,407	5,308	5,347	8,752
Ilocos Sur.....	57,372	10,565	28,795	18,012
Iloilo.....	51,739	23,861	9,111	18,767
Isabela.....	9,880	2,910	3,903	3,067
Laguna.....	20,867	7,578	5,406	7,883
Lanao.....	9,755	2,626	4,386	2,743
La Union.....	93,424	9,082	66,503	17,839
Leyte.....	55,505	21,168	8,521	25,816
Marinduque.....	7,151	1,579	2,402	3,170
Masbate.....	10,025	2,566	3,595	3,864
Mindoro.....	5,027	1,065	1,276	2,686
Misamis.....	57,529	17,670	29,310	10,549
Mountain Province.....	15,326	4,903	5,541	4,882
Nueva Ecija.....	23,350	8,079	6,221	9,050
Nueva Viscaya.....	9,195	1,040	5,019	3,136
Occidental Negros.....	15,824	8,328	2,748	4,748
Oriental Negros.....	21,438	5,383	7,594	8,461
Pampanga.....	28,545	5,322	11,009	12,214
Pangasinan.....	58,344	18,831	6,575	32,938
Palawan.....	25,045	7,531	11,201	6,313
Rizal.....	22,767	6,082	11,291	5,394
Romblon.....	5,642	2,365	1,253	2,024
Samar.....	144,576	23,294	79,828	41,454
Sorsogon.....	17,413	5,162	6,314	5,937
Sulu.....	24,386	10,747	6,494	7,145
Surigao.....	32,958	9,944	9,194	13,820
Tarlac.....	14,536	3,114	8,313	3,109
Tayabas.....	27,369	8,370	8,054	10,945
Zambales.....	6,461	1,493	2,516	2,452
Zamboanga.....	18,292	5,279	5,550	7,463
Total.....	1,697,822	406,643	789,930	501,249

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	699	852	3,329	1,500	9,289	6,258	18,317	8,110
Agusan.....	228	105	113	91	208	608	549	804
Albay.....	2,577	1,119	2,548	1,075	5,800	4,046	10,925	6,240
Antique.....	819	141	1,696	409	1,205	645	3,720	1,195
Bataan.....	1,689	295	3,001	1,550	2,747	1,670	7,437	3,515
Batanes.....	90	19	204	52	326	86	620	107
Batangas.....	4,310	651	6,307	1,950	7,504	6,390	18,121	8,991
Bohol.....	4,443	778	17,371	3,502	51,224	40,193	73,038	44,468
Bulacan.....	6,836	583	14,006	2,798	40,976	33,612	61,818	36,993
Cagayan.....	2,047	396	4,490	1,121	12,482	7,850	19,019	9,367
Camarines Norte.....	947	197	964	287	1,528	579	3,439	1,063
Camarines Sur.....	3,842	657	10,799	2,465	49,353	21,745	63,994	24,867
Capiz.....	5,672	897	10,901	2,092	32,563	10,133	49,136	13,122
Catanduanes.....	913	435	1,196	492	983	691	3,092	1,618
Cavite.....	2,943	566	4,408	1,295	11,262	6,643	18,613	8,504
Cebu.....	6,481	2,602	8,923	2,926	12,138	11,199	27,542	16,727
Cotabato.....	273	186	924	688	3,564	3,198	4,761	4,072
Culion Leper Colony.....	19	6	8	3	173	119	200	128
Davao.....	274	86	885	372	2,151	939	3,310	1,397
Ilocos Norte.....	2,152	322	4,523	956	5,422	4,126	12,097	5,404
Ilocos Sur.....	5,687	1,286	10,724	3,568	20,613	10,591	37,024	15,445
Iloilo.....	7,001	671	10,545	1,775	14,755	6,149	32,301	8,695
Isabela.....	386	176	1,348	617	2,830	2,391	4,564	3,184
Laguna.....	3,551	968	3,197	1,348	4,412	5,693	11,160	8,009
Ilanos.....	783	139	1,148	432	1,850	830	3,781	1,401
La Union.....	3,700	637	10,065	5,095	29,125	29,565	42,890	35,297
Leyte.....	5,235	1,620	7,572	2,912	13,027	6,278	25,834	10,810
Marinduque.....	648	208	914	324	2,336	1,060	3,898	1,592
Masbate.....	531	231	968	416	2,511	1,988	4,010	2,635
Mindoro.....	331	88	692	315	1,566	1,057	2,589	1,460
Misamis.....	1,535	640	5,554	1,599	17,375	6,136	24,464	8,375
Mountain Province.....	658	124	1,862	660	3,728	2,068	6,248	2,852
Nueva Ecija.....	3,339	948	4,931	1,981	5,158	4,230	13,428	7,159
Nueva Vizcaya.....	456	33	1,065	491	2,841	2,209	4,362	2,733
Occidental Negros.....	3,212	712	2,987	962	2,838	1,021	9,037	2,695
Oriental Negros.....	2,409	757	3,537	1,515	5,930	3,535	11,876	5,807
Pampanga.....	2,362	452	3,134	1,018	8,654	8,602	14,150	10,072
Pangasinan.....	9,130	1,910	12,135	3,421	13,447	10,092	34,712	15,423
Palawan.....	410	32	1,949	207	8,558	5,191	10,917	5,430
Rizal.....	3,310	833	3,176	1,492	4,520	5,903	11,006	8,228
Romblon.....	656	153	1,169	344	1,621	839	3,446	1,336
Samar.....	3,414	950	12,648	4,332	48,475	20,180	64,537	25,462
Sorsogon.....	1,667	529	2,727	1,245	4,414	2,799	8,808	4,573
Sulu.....	878	336	4,151	1,258	7,145	2,520	12,174	4,114
Surigao.....	1,248	386	3,219	831	8,899	3,742	13,366	4,959
Tarlac.....	1,445	332	1,866	942	3,086	4,858	6,397	6,132
Tayabas.....	2,495	580	4,148	1,171	10,251	5,289	16,894	7,040
Zambales.....	739	161	879	520	1,702	2,015	3,320	2,696
Zamboanga.....	1,339	929	1,724	1,419	2,590	3,456	5,653	5,804
Total.....	115,809	27,209	216,630	67,834	505,155	320,967	837,594	416,010

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra						
Agusan						
Albay	7,629	4,411	1,382	845		
Antique						
Bataan						
Batanes						
Batangas	189	99	28	10		
Bohol						
Bukidnon						
Bulacan	2,858	3,718	146	512		
Cagayan						
Camarines Norte						
Camarines Sur	5,867	3,660				
Capiz						
Catanduanes	126	129	152	114		
Cavite						
Cebu	1,110	1,164	156	52		
Cotabato						
Davao	16	36				
Ilocos Norte						
Ilocos Sur						
Iloilo						
Isabela	11	5	9	2		
Laguna						
Lanao						
La Union						
Leyte						
Mirindique						
Masbate						
Mindoro						
Mi-amis						
Mountain Province						
Nueva Ecija						
Nueva Vizcaya						
Occidental Negros						
Oriental Negros						
Palawan						
Pampanga	686	980	419	710		
Pangasinan	155	143	62	43		
Rizal						
Romblon						
Samar						
Sorsogon						
Sulu						
Surigao						
Tarlac						
Tayabas						
Zambales						
Zamboanga						
Total	18,647	14,345	2,354	2,288		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....									
Agusan.....									
Albay.....	5,428	3,307	1,228	784			20,775	4,239	
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	272	81	65	14			641	117	
Bohol.....									
Bukidnon.....									
Bulacan.....	2,441	2,868	40	336			11,885	1,034	
Cagayan.....									
Camarines Norte.....									
Camarines Sur.....	5,104	3,303					17,934		
Capiz.....									
Catanduanes.....	34	89	81	84			378	431	
Cavite.....									
Cebu.....	939	1,105	134	42			4,318	384	
Cotabato.....									
Davao.....	6	20					78		
Ilocos Norte.....									
Ilocos Sur.....									
Iloilo.....									
Isabela.....	8	6	4	1			30	16	
Laguna.....									
Lanao.....									
La Union.....									
Leyte.....									
Marinduque.....									
Masbate.....									
Mindoro.....									
Misamis.....									
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Palawan.....									
Pampanga.....	781	831	468	555			3,278	2,152	
Pangasinan.....	84	144	41	55			526	201	
Rizal.....									
Romblon.....									
Samar.....									
Sorsogon.....									
Sulu.....									
Surigao.....									
Tarlac.....									
Tayabas.....									
Zambales.....									
Zamboanga.....									
Total.....	15,097	11,754	2,061	1,871			59,843	8,574	

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra						
Agusan						
Albay	101	136	3	19		
Antique						
Bataan						
Batanes						
Batangas	763	113	532	119	69	1
Bohol						
Bukidnon						
Bulacan	495	180	458	171	317	106
Cagayan						
Camarines Norte						
Camarines Sur						
Capiz						
Catanduanes						
Cavite						
Cebu	80	76	5	2		
Cotabato						
Davao						
Ilocos Norte						
Ilocos Sur						
Iloilo	50	30	18	6	16	6
Isabela						
Laguna	44	17	33	9	36	4
La Union					374	30
Lanao						
Leyte	32	49	22	16	12	8
Marinduque						
Masbate						
Mindoro	4	4	4	4	4	4
Misamis						
Mountain Province						
Nueva Ecija						
Nueva Vizcaya						
Occidental Negros						
Oriental Negros						
Palawan						
Pampanga						
Pangasinan	368	298	218	163	125	124
Rizal	121	29	61	12	50	11
Romblon						
Samar	251	45	162	27	52	4
Sorsogon	80	16	14		20	4
Sulu						
Surigao						
Tarlac	65	1	54	1	26	1
Tayabas						
Zambales						
Zamboanga						
Total	2,454	994	1,584	549	1,091	308

¹ Incomplete; reports from other provinces not yet received.

A. means persons of 15 and over 15 years of age; C. below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in females						Total of injections		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra.....									
Agusan.....									
Albay.....	45	95		4			377	26	
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	603	182	420	142	44	1	1,661	1,218	105
Bohol.....									
Bukidnon.....									
Bulacan.....	574	208	530	193	390	115	1,457	1,352	928
Cagayan.....									
Camarines Norte.....									
Camarines Sur.....									
Capiz.....									
Catanduanes.....									
Cavite.....									
Cebu.....	103	59	2	2			318	11	
Cotabato.....									
Davao.....									
Ilocos Norte.....									
Ilocos Sur.....									
Iloilo.....	74	16	36	2	44	2	170	62	68
Isabela.....									
Laguna.....	44	10	30	10	32	11	115	82	83
La Union.....					251	20			675
Lanao.....									
Leyte.....	49	33	33	20	6	2	163	91	28
Marinduque.....									
Masbate.....									
Mindoro.....	4	1	4	1	4	1	13	13	13
Misamis.....									
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Palawan.....									
Pampanga.....									
Pangasinan.....	376	311	251	157	206	98	1,353	789	553
Risal.....	83	28	45	18	49	15	261	136	125
Romblon.....									
Samar.....	146	22	115	14	23	3	464	318	82
Sorsogon.....	93	80	16			4	269	80	28
Sulu.....									
Surigao.....									
Tarlac.....	3	3	3	3	2	3	72	61	32
Tayabas.....									
Zambales.....									
Zamboanga.....									
Total.....	2,197	1,048	1,485	566	1,051	275	6,693	4,184	2,720

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....	1		11			
Agusan.....						
Albay.....	102	7	25	7		
Antique.....	482	788	177	309		
Bataan.....	745	259	284	93		
Batanes.....	142	20	9			
Batangas.....	123	61	101	55		
Bohol.....	437	132	298	106		
Bukidnon.....						
Bulacan.....	1,403	630	1,014	435		
Cagayan.....	345	169	137	96		
Camarines Norte.....	622	41	223	15		
Camarines Sur.....	2,023	1,039	1,294	640		
Capiz.....	499	331	199	116		
Catanduanes.....						
Cavite.....	1,318	622	1,195	673		
Cebu.....	5,275	3,331	1,512	621		
Cotabato.....	648	378	134	208		
Davao.....	30		2			
Ilocos Norte.....	699	333	259	338		
Ilocos Sur.....	1,281	582	596	262		
Iloilo.....	330	206	217	128		
Isabela.....						
Laguna.....	2,283	1,260	1,277	860		
Lanao.....						
La Union.....	1,608	364	1,404	382		
Leyte.....	526	196	446	126		
Marinduque.....	894	1,027	546	589		
Masbate.....	181	330	108	17		
Mindoro.....	177	49	16	1		
Misamis.....	661	259	206	15		
Mountain Province.....	244	196				
Nueva Ecija.....	837	206	471	256		
Nueva Vizcaya.....	317	342	289	321		
Occidental Negros.....	1,799	760	1,418	668		
Oriental Negros.....	490	252	162	240		
Palawan.....						
Pampanga.....	7,943	7,725	5,543	6,062		
Pangasinan.....	5,368	4,580	4,372	3,912		
Rizal.....	5,312	1,487	1,372	355		
Romblon.....	56	135	84	76		
Samar.....	180	168	82	88		
Sorsogon.....	16		16			
Sulu.....	34	3	26	2		
Surigao.....	167	2	82			
Tarlac.....	587	407	299	137		
Tayabas.....	1,772	350	841	184		
Zambales.....	604	507	571	464		
Zamboanga.....	1,829	1,524				
Total.....	50,390	31,058	27,258	18,857		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in females						Total of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....			13	1			1	25	
Agusan.....									
Albay.....	101	6	26	6			216	64	
Antique.....	432	711	204	276			2,413	966	
Bataan.....	521	174	203	54			1,699	684	
Batanes.....	55	17					234	9	
Batangas.....	130	23	122	14			337	292	
Bohol.....	417	177	271	144			1,163	819	
Bukidnon.....									
Bulacan.....	1,259	595	899	366			3,887	2,714	
Cagayan.....	174	145	64	86			833	383	
Camarines Norte.....	214	48	50	8			925	296	
Camarines Sur.....	1,664	900	1,131	593			5,626	3,658	
Capiz.....	400	253	138	84			1,483	537	
Catanduanes.....									
Cavite.....	1,524	638	1,324	578			4,102	3,770	
Cebu.....	4,409	2,696	1,330	489			15,711	3,952	
Cotabato.....	216	260	60	168			1,502	570	
Davao.....	12						42	2	
Ilocos Norte.....	733	342	347	330			2,107	1,274	
Ilocos Sur.....	974	502	414	231			3,339	1,503	
Iloilo.....	309	183	233	105			1,028	683	
Isabela.....									
Laguna.....	2,699	1,254	1,666	918			7,496	4,721	
Lanao.....									
La Union.....	1,152	272	910	262			3,396	2,958	
Leyte.....	668	166	546	102			1,556	1,220	
Marinduque.....	671	896	343	585			3,488	2,063	
Masbate.....	110	186	53	8			807	186	
Mindoro.....	17	6	71	38			249	126	
Misamis.....	565	201	139	11			1,686	371	
Mountain Province.....	129	197					766		
Nueva Ecija.....	364	159	303	221			1,566	1,251	
Nueva Vizcaya.....	224	336	187	321			1,219	1,118	
Occidental Negros.....	1,193	814	911	787			4,566	3,784	
Oriental Negros.....	297	189	92	230			1,228	714	
Palawan.....									
Pampanga.....	8,503	6,209	5,921	4,797			30,380	22,323	
Pangasinan.....	4,820	4,084	3,984	3,527			18,852	15,795	
Rizal.....	5,567	1,159	1,787	385			13,525	3,899	
Romblon.....		86		42			277	152	
Samar.....	110	135	55	72			593	297	
Sorsogon.....	14		13				30	29	
Sulu.....	14	4	12	2			55	42	
Surigao.....	112	1	68				282	150	
Tarlac.....	270	295	118	112			1,559	666	
Tayabas.....	1,065	221	468	72			3,408	1,565	
Zambales.....	469	463	449	432			2,043	1,916	
Zamboanga.....	1,754	1,356					6,463		
Total.....	44,331	26,359	24,925	16,457			152,138	87,497	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF SEPTEMBER, 1925**

No case and no death reported during the month

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF SEPTEMBER, 1925**

Provinces and towns	Cases	Deaths
Batangas:		
Lipa.....	1	0
Bulacan:		
Bucaue.....	1	1
Polo.....	1	1
Rizal:		
Ma'abon.....	4	4
Navotas.....	4	4
Pasay.....	1	1
Total.....	12	11

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF SEPTEMBER, 1925**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending September 1, 1925:				
Minor.....	120	81	80	281
Sewer.....	22	57	6	85
Vacating.....	9	15	7	31
Filling.....	10	24	12	46
Total.....	161	177	105	443
Orders issued during the month:				
Minor.....	32	22	32	86
Sewer.....		2		2
Vacating.....				
Filling.....		8		8
Total.....	32	32	32	96
Orders completed during the month:				
Minor.....	11	18	8	32
Sewer.....				
Vacating.....	1			1
Filling.....				
Total.....	12	18	8	33
Orders cancelled during the month:				
Minor.....	3	1		4
Sewer.....				
Vacating.....				
Filling.....				
Total.....	3	1		4
Orders pending, September 30, 1925:				
Minor.....	138	89	104	331
Sewer.....	22	59	6	87
Vacating.....	8	15	7	30
Filling.....	10	32	12	54
Total.....	178	195	129	502
Strong material plans approved:				
New buildings including additions and alterations.....	21	54	34	109
Permits for minor building constructions:				
Approved.....	37	45	29	111
Disapproved.....	13	11	8	32
New buildings completed.....	19	42	26	87
Permits for light and mixed material construction:				
Approved.....	23	21	11	55
Disapproved.....	2	1	3	6
Prosecutions:				
Convictions.....		2	1	3
Dismissals.....				
Amount of fines.....				
Plumbing permits issued.....	86	83	55	224
Plumbing projects completed.....	106	125	83	314
Premises connected to the sanitary sewer to August 31, 1925.....	2,434	4,138	499	7,071
Connected during the month.....	5	13	7	25
Total.....	2,439	4,151	506	7,096

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

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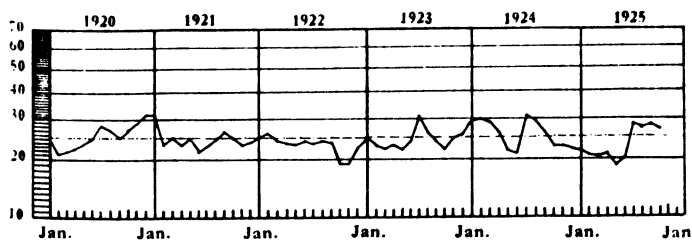
No. 10

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



..... Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1925

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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VOL. V

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No. 10

STUDIES ON THE SEROLOGY OF LEPROSY

III. THE KAHN PRECIPITATION REACTION IN LEPROSY¹

ELOY V. PINEDA, M.D.

Of the Pathological Section

and

ELISA ROXAS-PINEDA, M.D.

Of the Medical Section

Culion Leper Colony, Philippine Health Service

ABSTRACT

So firmly established is the belief that leprosy by itself gives rise to positive Wassermann reaction that the contrary view, upheld in the first paper of the present series, needs corroboration by another test used for the serum diagnosis of treponematous infections.

The Kahn precipitation reaction has been recognized to have the same diagnostic value as the Wassermann in the serum diagnosis of syphilis. It is to be expected that if a positive Wassermanns in leprosy were due to the same serum element that is produced in treponematous infections this reaction would also be positive. Yagle and Kolmer applied it in this connection, and found it regularly negative with the sera of a small group (28) of lepers.

The present paper deals with the results obtained with this test in two hundred and fifty cases of leprosy, of various types and stages of advancement. The Wassermann reaction (Kolmer technic) was also performed on all sera.

¹ Paper to be published in full in the Philippine Journal of Science.

Of the total number examined, 214 gave negative results. Of the 36 cases that proved positive, 17 were definitely complicated with yaws and 11 with syphilis. These diagnoses were not made on highly doubtful evidence; this would not be justifiable in the presence of a disease such as leprosy. It was therefore expected that some of those passed as not suspicious should be actually positive. Only eight of the two hundred and twenty-two apparently uncomplicated cases gave positive reactions.

Findings with the Wassermann reaction, previously reported, led to the conclusion that lepers giving strongly positive reactions with the technic used are suffering from either yaws or syphilis, and the evidence in the present instance points strongly to the same conclusion. In five of these patients the suspicion of complicating yaws was strong, and three unselected cases were rendered negative by neoarsphenamine injections.

All of the seventeen cases diagnosed as having yaws gave positive Kahn reactions that on the whole were as strongly positive as the Wassermann. Similarly, the eleven cases diagnosed as syphilitic were positive, though both the Kahn and the Wassermann reactions were weaker in this group than in the yaws group, the infection in these cases being in a latent form.

A point of interest is that this test was entirely negative in lepra reaction, in which condition even the Kolmer Wassermann is sometimes weakly or doubtfully positive. Fifty-four sera from cases in this condition are included in this group. Nine gave doubtful or weakly positive Wassermann reaction. That such reactions are due to errors inherent to the relatively complicated technic of the Wassermann reaction, and not to the production of a reacting substance similar to that occurring in treponematosus infections, is indicated by the uniformly negative precipitation test and by the transitory character of such positive reactions. After an interval of time, during which in most of the nine cases referred to the lepra reaction had subsided, retests were made. In seven the Wassermann had become entirely negative, though in two in which the lepra reaction had persisted it was still doubtfully positive. This findings are in keeping with the report of Clegg that lepers in whom the Wassermann was found positive gave negative luetin tests.

Fourteen patients with positive Kahn reactions were given antitreponematosus treatment and their sera retested one or more times. In eleven, including three of those in whom no clear

clinical evidence of treponematous complications had been detected, the reaction became negative, and in the other three it showed distinct diminution in strength.

These results confirm the conclusion of Yagle and Kolmer that the Kahn precipitation reaction is consistently negative in uncomplicated leprosy. As this is true even in cases suffering from lepra reaction, in which the Wassermann reaction is most apt to be positive, the Kahn reaction is preferable to the former for the detection of complicating treponematous infections in lepers.

TRAINING FOR THE NURSING PROFESSION IN THE PHILIPPINES

By TOMASA GODUCO, R.N.

Dietician, San Lazaro Hospital, Manila

Nursing for many centuries was done by the religious orders. They gave all the ability and skill that was in their power to bestow. They had no training except the mechanical daily routine. They worked night and day without complaining, and received nothing in return. No attempt was made to improve the nursing condition until the Crimean War broke out in 1854, which brought in a new era in the nursing world. Miss Florence Nightingale's experience in that war led her to establish the first school for nurses in 1860 in England at St. Thomas Hospital, with fifteen probationers. This system was brought to America in the latter part of the nineteenth century. The first training school in the United States was opened in 1872 at the New England Hospital for women, Boston, Mass. The idea of a nurses training school was not brought to our dear Philippines until 1906.

I am sure that we are all glad that the swing of the pendulum has gone, or is going fast, from the day when if any person was ill, some gracious old woman of the neighborhood was called who put on some mustard poultice or leaves, no matter what the trouble was and went away,—and generally the undertaker was able to do the rest! After a long hard experience, we came to realize and appreciate the health needs of our country, and as an answer to this pressing necessity came the schools for nurses.

The nucleus of our training school was founded in 1906, at the Iloilo Mission Hospital. In 1907, three other training schools were opened, whereof one was by the Bureau of Education as a special branch of the Philippine Normal School. This same school was later transferred to the Bureau of Health and still later to the University of the Philippines. The other two schools are the St. Paul's and St. Luke's, and both are conducted by religious orders. As the number of hospitals grew, the

training schools came up as their side-issue. Now we have in the Islands 14 training schools for nurses connected with the different hospitals and scattered from north to south of the Archipelago, as follows:

Philippine General Hospital, Manila.
 Mary Chiles Hospital, Manila.
 Mary Johnston Hospital, Manila.
 St. Paul's Hospital, Manila.
 San Juan de Dios Hospital, Manila.
 St. Luke's Hospital, Manila.
 Chinese General Hospital, Manila.
 Mission Hospital, Iloilo.
 Immanuel Hospital, Capiz.
 Christian Mission Hospital, Vigan, Ilocos Sur.
 Christian Mission Hospital, Laoag, Ilocos Norte.
 Southern Islands Hospital, Cebu.
 Baguio General Hospital, Baguio.
 Zamboanga General Hospital, Zamboanga.

From 1906 to the present date, we have about 1,300 registered graduate nurses from all of these schools.

HANDICAP IN NURSES' TRAINING

Now the question uppermost in the minds of the nursing educators is whether or not these training schools give the proper education to their students. The answer is naturally, "No!" or "No as we expect!"

You will surely agree with me that the teaching of nurses in the past was not only primitive, but also casual. The few hospitals have multiplied in number, and need for nursing services has increased. The hospitals were not able to buy it, as it was not in the social market; and even if it were, they were not able to pay for it at ruling prices because it was too heavy a tax on their financial resources. So they have resorted to the device of training nurses as an economic expedient. The methods of teaching which have been used in these hospitals have been, for the most part, dictated by economic conditions, and they still remain, in many instances, a tribute to expediency rather than to education.

In the Philippines at the present time, most of our hospitals do not have sufficient funds to pay instructors, and consequently have to depend on volunteer teachers who, if they are not pioneers in the teaching field, are generally too busy to give much of their time to regular teaching.

The lack of proper teaching equipment, classrooms, laboratories, in many hospitals is also lamentable to note.

In the majority of the institutions, teaching is secondary. The nurses are generally left only a few of the hours scheduled for lectures in order to attend a patient. A good deal of the nurses' time is spent unnecessarily in labors that belong to housemaids.

With such a poorly standardized system of teaching, how can we attract desirable young men and women who are to spend their lives earning livelihood in this kind of work? There are many other professional as well as vocational schools that offer an easier way of getting bread and butter and are on a broad scientific basis. Naturally, a person will choose a better organized school. It is human to grow and to expand. The Divine Power decreed that we "Live and Grow." Why should we keep the nursing profession in an impossible pit of unstandardized knowledge? Day by day the public demands a better service in all activities; and if we do not keep up with the demand, we shall surely be left behind.

ADVANCE IN NURSING

Surveying the different activities performed by nurses, we can not help but realize the need for better education. We are living in a day in which quality has taken precedence as a prime factor in every human equation. The test for fitness is applied in every human business. It is a recognized fact that specialization is necessary to attain the highest type of efficiency in all undertakings. We can not be an exception to the rule.

Nursing today shares in importance with the medical profession, in all its branches, in ever-increasing measure. We have the different special branches in nursing. There is the bedside or clinical nursing, infant and child welfare, medical and social service, prenatal and obstetrical service, and the like. Besides the nurses' varied duties, she is called out into the field as a teacher or nursing, for public school hygiene, public health teaching, and kindred other activities. She is necessarily the first great health teacher in preventive medicine and the promoter of public health education, besides being an organizer.

Are we not convinced that the nurse, who has in her hands these sacred responsibilities, incidental to her professional work, should be able to give the community she serves the highest type of service? And while her individual personality may go toward determining her success, this quality alone will not be sufficient. She needs a great deal more than personality. but she can not get it unless the public she serves stands behind

her and gives her the opportunity for preparation that has been recognized as necessary for other groups of workers.

The intelligent young women of today are no longer to be deceived by attractive residential homes and bonuses. They seek the bounty of real education. The outcome of this condition is the increasing dissatisfaction with the nursing status. The demand for the development of nursing education, for its own sake, is being more and more urged. The cry for a better education in the nursing field in these later years has resulted in the birth of the university schools of nursing, where the educational purpose is clearly defined and where teaching, for the first time, has been standardized.

Perhaps no single event is so significant of great progress in nursing education as is the creation of a school of nursing in the venerable University of Yale, endowed by the Rockefeller Foundation, which has just been announced.

Another remarkable progress in nursing education is the creation of eleven university schools of nursing in America and the offer of the five-year course in arts and nursing by sixteen institutions. What an advance from the old system!

I can not help mentioning one more progressive movement in nursing education. I am sure that you have already read or heard of the survey of nursing education by the Rockefeller Foundation. A good bit of work done in nearly three years of thoroughgoing investigation! The report of the committee of investigation is summarized in the Twenty-Eighth Annual Report of the National League of Nursing Education.

For the benefit of those persons who did not have the opportunity to read this report and for the object of comparing the adaptability of such recommendations to our need, permit me to read part of the conclusion that is published.

CONCLUSIONS

(1) That, since the constructive health work and teaching in families is best done by persons: (a) capable of giving general health instruction, as distinguished from instruction in any one specialty, and (b) capable of rendering bedside care at need, the agent responsible for such constructive health work and health teaching in families should have completed the nurse's training. There will, of course, be need for the employment, in addition to the public health nurse, of other types of experts such as nutrition workers, occupational therapists, and the like.

That, as soon as may be practicable, all agencies public or private, employing public health nurses, should require as prerequisite for employment the basic hospital training, followed by a post-graduate course, including both class work and field work in public health nursing.

(2) That the career open to young women of right capacity in public health nursing or in hospital supervision and nursing education is one of the most attractive fields now open, in its promise of professional success and of rewarding public service; and that every effort should be made to attract such young women into this field.

(3) That, for the care of persons suffering from serious and acute diseases, the safety of the patient and the responsibility of the medical and nursing profession demand the maintenance of the standards of educational attainment now generally accepted by the best sentiment of both professions and embodied in the legislation of the more progressive states, and that any attempt to lower these standards would be fraught with real danger to the public.

(4) That, while training schools for nurses have made remarkable progress and while the best schools of today in many respects reach a high level of educational attainment, the average hospital training school is not organized on such a basis as to conform to the standards accepted in other educational fields; that the instruction in such schools is frequently casual and uncorrelated; that the educational needs and the health and strength of students are frequently sacrificed to practical hospital exigencies; that such shortcomings are primarily due to the lack of independent endowments for nursing education; that existing educational facilities are, on the whole in the majority of schools, inadequate for the preparation of the high grade of nurses required for the care of serious illness, and for service in the fields of public health nursing and nursing educational; and that one of the chief reasons for the lack of sufficient recruits of a high type, to meet such needs, lies precisely in the fact that the average hospital training school does not offer a sufficiently attractive avenue of entrance to this field.

(5) That, with the necessary financial support and under a separate board or training school committee, organized primarily for educational purposes, it is possible—with the completion of a high school course or its equivalent as a prerequisite—to reduce the fundamental period of hospital training to 28 months and at the same time, by eliminating unessential, non-educational routine and adopting the principles laid down in Miss Godmark's report, to organize the course along intensive and coördinated lines with such modifications as may be necessary for practical application; and that courses of this standard would be reasonably certain to attract students of high quality in increasing numbers.

(6) Superintendents, supervisors, instructors, and public health nurses should in all cases receive special additional training beyond the basic nursing course.

(7) That the development and strength of university schools of nursing of a high grade for the training of leaders is of fundamental importance in the furtherance of nursing education.

(8) That the development of nursing service, adequate for the care of the sick, and the conduct of the modern public health campaign demands as an absolute prerequisite the securing of funds for the endowment of nursing education of all types; and that it is of primary importance, in this connection, to provide a reasonably generous endowment for university school of nursing.

After reading, I can feel that you will question me, as I have been often asked about the adaptability of such recommendations to our present situation. You will surely say, "We are not Americans and we are not in America." Well and good! but we are just as high-minded as are the American people in appreciating good education and a high degree of service.

I hear many persons say that if we require higher entrance requirements, the students will prepare to take pharmacy and other similar courses. My answer is absolutely "No" if nursing is on an equal level. We shall get better applicants instead, because each one will choose her own vocation. There are no two persons alike. A person who wishes to be pharmacist and enjoys staying in the store will not make a good nurse by all means! The same condition is true with those persons who delight to give help and alleviate the suffering; they can not stay confined in the store.

The influence of education itself upon the nurse is great. It cultivates respect, dignity, originality, and resourcefulness. It heightens her appreciation of the value of her education and the significance of her service.

From every land, from every place, from every bedside of the sick, in homes, in hospitals, from the schools of nursing, from industrial centers, from physicians' offices, from public schools, from all types of clinics,—from everywhere, the call comes for the nurse of good education. When that kind of a nurse answer that call, her very spirit is sensed by all men.

It is, indeed, a pleasure to be with you today, it is a great privilege to address you; but it is still a greater joy to be able to tell you the aspiration of our profession. With your help and with the untiring spirit of the noble women who have made the nursing profession what it is today, I am convinced that the nurses to succeed us will do better work than we have done.

MISCELLANEOUS

CAPIZ

Several cases of typhoid developed in Kalibo with one death. The original cause is probably the insanitary water supply and foodstuffs. Dysentery was recorded also in Capiz, Pilar, and Numancia with three deaths.

Influenza is still present tho very mild in Capiz, Panay, Pilar, Sapián, Pontevedra, Balete, Kalibo, and Numancia.

Health conditions in general is fair in the province.

Sanitary measures were taken including preventive inoculations.

ILOCOS NORTE

Important works during the month.—Distribution of cholera leaflets and sanitary publicity, the close supervision of markets, stores and food supplies, the intensification of better sanitary toilet, compulsory construction of Antipolo toilet, by all officers and personnel, as well as provision with sanitary water container, private conference with new municipal presidents aiming at close coöperation in all health activities. Treatment of yaws in Pasuquin, trachoma treatment continued.

General health condition.—The health condition in the province is good. No epidemic diseases were registered, not a single cholera case was found, altho several cases of gastro-enteritis were reported.

Miscellaneous.—Doctor Bello is an addition to the staff of the Service of Ilocos Norte. He reported for duty in Bangui. The local conference of health personnel is scheduled for November 15th. Preparations are being made accordingly. The transfers of Doctor Medina to Dingras, Doctor Arreola to Badoc, and Doctor Vinteres to Sarraat were effected.

LAGUNA

Provincial hospital.—Malaria is common among both children and adults. Preventive and curative measures were immediately given to cases presenting to the hospital.

MISAMIS

No dangerous communicable diseases reported.

The most prevalent diseases registered during the month were: Malaria, convulsion of infants, and beriberi.

The public market of Mambajao is in a better sanitary condition than the previous month.

SURIGAO

Important works accomplished or undertaken: (a) Preventive measures against cholera; inoculation, inspection, and a close watch of incoming passengers from Manila; daily inspection of public markets, bakeries, carinderias, and tuba and other food sellers; campaign against insanitary toilets.

a warning to the public to report to the health office all intestinal troubles, and lectures regarding cholera prevention. (b) Conference with the chief of provincial sanitation regarding readjustment of the shortage of the health fund for 1926; regarding Dr. G. V. Campomanes' case, and pending appointments of several provincial sanitary inspectors. (c) Confinement of two lepers.

Surigao is in good sanitary condition. Placer fair, the cemetery has been thoroughly cleaned. Barrios Buenavista, Alegria, Arellano in fair sanitary condition. Barrio Banban in good sanitary condition. Barrio Tagana-an in poor sanitary condition, the most outstanding defect being the lack of sanitary disposal of excreta. In all these barrios lectures were delivered regarding prevention against cholera and dysentery.

General health condition.—Two cases without death of ptomain poisoning were reported from Surigao due to shrimps and crabs. Influenza epidemic was reported from Barrio Cabuntug during the first days of October. The president, Third Sanitary Division, was immediately sent to the place with the necessary supplies to combat the disease. The general health condition is otherwise very satisfactory.

ZAMBALES

During the month the following municipalities were inspected: Botolan, San Narciso, San Antonio, San Marcelino, Subic, and Olongapo. The general health condition of this district is fairly well. The communicable diseases registered were: dysentery—1 case and 1 death in San Felipe; 2 cases and no death in Iba; measles: 19 cases and no death in Iba; varicella—1 case and no death in Palauig.

Proper sanitary measures were taken to prevent the spread of the above diseases including isolation of patients, concurrent and terminal disinfections, and vaccinations of contacts.

On October 6, 1925, the district health officer gave lectures in the Zambales High School regarding personal hygiene and cholera prevention which was attended by about 400 persons.

CEBU

IMPORTANT WORKS UNDERTAKEN AND ACCOMPLISHED

Medical examination of school children.—The medical examination of school was continued during the month in the City of Cebu by the assistant to the district health officer, Dr. Cesar Filoteo, and a total number of 150 school children was examined. During the month, with the exception of the barrio schools which are situated in distant barrios of the municipality of Cebu, all children attending public schools were given anti-cholera and anti-typhoid injections and a total of 3,730 injections was given.

Lepor detention camp.—Twelve new lepers, clinically and bacteriologically positive, were admitted in the leper detention camp, and a total of 310 chaulmoogra injections was given during the month.

Cholera and anti-typhoid vaccinations.—All district nurses were actively busy in vaccination work within the city and a total number of 4,581 injections was given by them during the month. Anti-cholera and anti-typhoid vaccinations in the other sanitary divisions gave a total of 5,585 injections by the different presidents of sanitary divisions during September.

Smallpox vaccination.—Vaccination against smallpox was continued and a total number of 3,461 positives and 2,016 negatives was recorded for September.

General health condition of the district.—Up to the present time no case of cholera has been reported in the district, and, in the City of Cebu, three or four cases of diarrhea were reported as suspicious cases of cholera, but the laboratory report showed negative for cholera vibrio. With the exception of a few cases of dysentery, whooping cough, especially in Cebu, the general sanitary condition of the district is fair.

ISABELA

Mosquito campaign.—Campaign against mosquito breeding places and the construction of sanitary closets throughout the province were undertaken.

Places inspected.—During the month, the following places were inspected: Ilagan, and its barrios, Centro, San Vicente, Baculad, and Bagumbayan; Tamauni and its barrio, Centro, and Cabagan and its barrio, Centro.

Detailed report of findings and actions taken.—During the inspection it was found that almost all the closets built in this province are in poor condition. Sanitary orders were issued to change their closet for another more sanitary.

General health condition.—Almost all the municipalities registered low mortality.

The health condition of Ilagan is good: Cabagan, excellent and Tamauni, good. The health condition of the province is good.

LAGUNA

Movement of personnel.—Dr. Augusto P. Arenas, president of Sanitary Division No. 10, has been directed to take charge of the Third Sanitary Division comprising the municipalities of Nagcarlan, Lilio, and Rizal, besides his other duties, during the absence of the incumbent, beginning November 12, 1925.

Dr. Mariano O. Marfori, president of Sanitary Division No. 5, has been directed to take charge of the Second Sanitary Division comprising the municipalities of San Pablo and Alaminos, besides his other duties, during the absence of the incumbent, beginning November 12, 1925.

NUEVA VIZCAYA

Santa Fe, the entrance gate to the province, and Boni, a most populous and nearest town to that place, were closely supervised, and every passenger passing thru the first place was stopped, and the actual health condition of each passenger noted. Intensive vaccination of all the inhabitants was undertaken by the district nurse. Mixed cholera-typhoid vaccines were given.

There were 10 deaths during the month with 35 infant deaths as compared with 201 deaths with 45 infant deaths during the period corresponding to that of last year.

ROMBLON

The important work accomplished during the month was the meeting in this office of the presidents of sanitary divisions about the program for the coming health officers' assembly.

The places inspected by the undersigned were the Roman Catholic Cemetery of Romblon and the barrios of Alad and Corcuera. The sanitary condition of the Catholic cemetery of Romblon is good.

SORSOGON

The municipalities of Bacon, Magallanes, Sorsogon, Gubat, Casiguran, and Juban were inspected. Disinfectant, supplies, medicines, and vaccines against cholera, smallpox, typhoid, and para-typhoid were distributed to all presidents of sanitary divisions. Two thousand two hundred eighty-five persons were vaccinated against cholera during October, besides those performed by sanitary personnel under the direct supervision of the president of sanitary division.

The general health condition of the district is satisfactory.

This office has taken part in the parade of the inauguration of water works in Sorsogon, in which also a lecture was held by Dr. Fernando B. Duran; also this office has taken part in the parade celebrating the inauguration of the new provincial governor, October 16.

DIVISIONAL HEALTH OFFICERS' ASSEMBLY IN NUEVA ECIJA

The first divisional health officers' assembly in Nueva Ecija was held at Cabanatuan on September 4 and 5, 1925, and the program thereof was as follows:

SEPTEMBER 4, 1925

Opening of session at 9 a. m.

1. Address of the Director of Health or His Representatives.
2. Control of the Yaws Cases in Guimba, by Dr. Braulio Sison. Discussion to be opened by Dr. Emeterio Jimenez.
3. Report of a Case of Cerebro-spinal Meningitis with the Pneumococcus as the Causative Agent, by Dr. Pedro Santos. Discussion to be opened by Dr. Nicanor Payaual.
4. Difficulties Encountered in the Health Service in the Province. Suggestions to Obviate these Difficulties, by Dr. Hilario R. Jacinto. Discussion to be opened by Dr. Demetrio Lacuna.
5. Control of Diarrhea and Enteritis and its Causes, Symptoms and Treatment, by Dr. Nicanor Payaual. Discussion to be opened by Dr. Vicente Lopez.

SEPTEMBER 5, 1925

1. Prevalence of Infantile Beri-beri in San Antonio. Methods to control the cases, by Dr. Manuel Juan. Discussion to be opened by Dr. Geronimo Z. Gaanan.
2. Causes of Infant Mortality in the Sixth Sanitary Division, By Dr. Geronimo Z. Gaanan. Discussion to be opened by Dr. Braulio Sison.
3. Report of Ascaris Campaign in the Ninth Sanitary Division, by Dr. Demetrio Lacuna. Discussion to be opened by Dr. Pedro Santos.
4. A Brief Account of the Provincial Dentist of Nueva Ecija. Discussion to be opened by Dr. Demetrio Lacuna.
5. Remarks on the Present Sanitary Laws and Regulations, by Dr. Vicente Lopez. Discussion to be opened by Dr. Jose L. Caluag.

SEPTEMBER 6, 1925

Miscellaneous

In the absence of the Director, the District Health Officer addressed the officers on the first day. On the second day the convention was honored by the addresses delivered by the Honorable Judge of the Court of First Instance of the province; by Miss Manongdo, a Supervising Red Cross Nurse from the Manila office; and by Mr. Ceferino Ramos, the district auditor for the province.

The Judge spoke on legal medicine; Miss Manongdo, on the work of the Red Cross and the relation that should exist between the Health Service and their institution; and the District Auditor, on matters pertaining to audits.

Important matters pertaining to the Health Service were discussed by the health officers of the province, some of which bear on the actual laws and regulations and on their varied experiences in sanitation work.

After the sessions at noon, the officers collectively take their launch each time in a hotel of the locality, and at the close of the convention, a picture of the attending officers was taken. The assembly was lively and during the sessions soft drinks were served.

THE FIRST ELECTION OF THE NUEVA ECIJA BRANCH OF THE PHILIPPINE ISLANDS MEDICAL ASSOCIATION

The first election of the Philippine Islands Medical Association, Nueva Ecija Branch, was held at Cabanatuan on September 5, 1925, from four to five o'clock in the afternoon. The result of the election gives the following:

<i>President</i>	Dr. TORIBIO JOSON
<i>First Vice-President</i>	Dr. VICENTE LOPEZ
<i>Second Vice-President</i>	Dr. FLORENTINO O. CHIOCO
<i>Secretary-Treasurer</i>	Dr. PEDRO FRANCISCO
<i>Councilors</i>	Dr. LEOCADIO BELTRAN, Dr. MARIANO R. LAMSON, Dr. DEMETRIO LACUNA, Dr. JOSE L. CALUAG, and Dr. EMETERIO JIMENEZ

The Nueva Ecija Branch of the Philippine Islands Medical Association courts with eighteen members.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of October, 1925)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1925 ¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,128
Chinese.....	17,856
All others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic.....	124,252
No. 2, Sampaloc.....	109,340
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,820
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	15,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS OCTOBER, 1925**

Date	Pressure mean	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
	mm.	°C.	°C.		°C.		8 a. m. mean	2 p. m. mean
1-10.....	757.57	25.8	33.4	4	22.6	5	29.3	29.5
11-20.....	57.46	25.6	32.5	12	21.7	16	28.4	28.5
21-31.....	60.23	25.5	31.4	21,22	20.2	28	28.7	29.0

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	88.4	96.0	10	79.0	5
11-20.....	85.1	92.4	11	74.8	18
21-31.....	80.2	85.9	30	74.8	25

Date	Wind			Atmidometer ² (open air)		
	Prevailing direction	Velocity			Total	Daily maxi- mum
		Total	Daily total maxi- mum	Day		
		Km.	Km.		mm.	mm.
1-10.....	NE	1,301.0	221.5	9	14.5	3.5
11-20.....	NE, SE	1,332.5	249.0	18	21.8	4.0
21-31.....	E quad	1,413.5	206.0	31	34.5	4.1

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	24 30	9 05	4	204.6	7
11-20.....	13 20	5 25	12	85.8	7
21-31.....	53 35	8 00	31	3.7	4

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, —1.72 mm.

² These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	6	4	10	37.69
Filipinos.....	579	565	1,144	47.15
Spaniards.....	3	3	6	36.16
Other Europeans.....	1	1	2	20.93
Chinese.....	34	23	57	37.61
All Others.....	4	3	7	37.73
Total and average.....	627	599	1,226	46.28

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MEISIC:							
1. Tondo.....	158	136	294	8	6	14	308
2. San Nicolas.....	31	25	56	1	1	2	58
3. Binondo.....	23	19	42	1	.....	1	43
Total.....	212	180	392	10	7	17	409
No. II, SAMPALOC:							
4. Santa Cruz.....	77	83	160	4	3	7	167
5. Quiapo.....	22	21	43	1	3	4	47
6. San Miguel.....	6	9	15	2	.....	2	17
7. Sampaloc.....	83	105	188	2	6	8	196
Total.....	188	218	406	9	12	21	427
No. III, PACO:							
8. Port Area.....	2	2	4	.....	.....	.....	4
9. Intramuros.....	37	26	63	1	1	2	65
10. Ermita.....	33	34	67	1	5	6	73
11. Malate.....	70	44	114	1	3	4	118
12. Paco.....	32	34	66	1	2	3	69
13. Pandacan.....	14	16	30	1	.....	1	31
14. Santa Ana.....	14	14	28	1	1	2	30
Total.....	202	170	372	6	12	18	390
Grand total.....	602	568	1,170	25	31	56	1,226

Attended by physicians, living, 394; stillbirths, 26
 Attended by midwife, living, 117; stillbirths, 3
 Attended by family, living, 715; stillbirths, 26

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	2	1	3	11.28
Filipinos.....	343	317	660	27.20
Spaniards.....	1	.....	1	6.03
Other Europeans.....	1	.....	1	10.46
Chinese.....	27	6	33	21.77
All Others.....	1	1	2	10.73
Total.....	376	325	700	26.42

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	113	102
Divorced.....		1
Widowed.....	35	63
Single.....	276	205
Condition not stated.....	2	1
Total.....	426	372
Grand total.....	798	

Stillbirths.....	55
Number of deaths with medical attendance.....	472
Number of deaths without medical attendance.....	326

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	126	87	9	9	231
1 year plus.....	16	28		3	47
2 years plus.....	19	8	1	2	30
3 years plus.....	14	20		2	36
4 years plus.....	5	6			11
5 to 9 years.....	11	12	1	1	25
10 to 14 years.....	9	8	1		18
15 to 19 years.....	13	9	8	4	34
20 to 24 years.....	26	17	2	3	48
25 to 29 years.....	15	20	3	3	41
30 to 34 years.....	8	13	5	1	27
35 to 39 years.....	13	15	5	6	39
40 to 44 years.....	6	11	3	2	22
45 to 49 years.....	13	7	3	2	25
50 to 54 years.....	13	13	1	2	29
55 to 59 years.....	14	4	1	1	20
60 to 64 years.....	13	9	2	3	27
65 to 69 years.....	10	7		2	19
70 to 74 years.....	7	5	1		13
75 to 79 years.....	6	4	2		12
80 to 84 years.....	4	3			12
85 to 89 years.....	5	2	1		8
90 to 94 years.....	3	3			6
95 to 99 years.....	3	4			7
100 years and over.....	2	5		1	8
Age not stated.....	1		1		2
Total.....	375	325	50	47	797

NOTE.—One male chinese, 52 years of age, permanent residence unknown, not included in the above table.

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH, AND MUNICIPAL DISTRICTS

555

Age groups	Health districts									
	No. 1, Meisic				No. 2, Sampaloc					
	No. 1, Tondo		No. 2, San Nicolas		No. 3, Binondo		No. 4, Santa Cruz		No. 5, Quidapo	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year.....	57	32	6	3	5	2	6	9	2	1
1 year plus.....	5	12	1	1	..	..	2	1	..	1
2 years plus.....	9	1	1	2	..	..	2	1	..	..
3 years plus.....	6	10	1	2	1	..	2	1	..	..
4 years plus.....	1	2	..	..	..	..	..	..	..	..
5 to 9 years.....	4	4	1	1	..	..	1	2	2	1
10 to 14 years.....	2	3	..	..	1	..	2	1	..	..
15 to 19 years.....	4	5	1	1	1	1	2	1	1	1
20 to 24 years.....	4	2	3	1	1	1	4	3	1	1
25 to 29 years.....	4	2	1	1	..	..	5	6	1	1
30 to 34 years.....	4	4	2	2	..	..	1	2	1	1
35 to 39 years.....	4	5	1	1	1	1	2	2	1	1
40 to 44 years.....	2	4	2	1	1	2	1	1	..	..
45 to 49 years.....	4	1	..	..	..	..	3	1	1	1
50 to 54 years.....	5	4	..	..	3	1	3	1	1	1
55 to 59 years.....	1	1	2	2	1	1	4	1	1	1
60 to 64 years.....	6	2	1	1	2	1	1	1	1	1
65 to 69 years.....	2	1	..	..	..	..	1	1	..	..
70 to 74 years.....	1	1	..	..	1	1	1	1	1	1
75 to 79 years.....	3	..	..	..	..	..	..	..	..	..
80 to 84 years.....	1	3	1	1	1	1	1	1	1	1
85 to 89 years.....	4	1	1	1	1	1	..	..	..	..
90 to 94 years.....	1	1	..	..	..	..	1	1	1	1
95 to 99 years.....	2	..	1	1	..	1	..	..	..	..
100 years and over.....	1	1	2	2	..	..	1	..	..	..
Age not stated.....	..	..	..	..	..	..	..	..	..	..
Total.....	136	102	22	23	21	11	40	41	9	10
Grand total.....	238		45		32		81		19	
							15			
									61	
									55	
									116	

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH,
AND MUNICIPAL DISTRICTS—Continued

Age groups	Health districts															Grand total
	No. 3, Paco															
	No. 8, Port Area		No. 9, Intramuros		No. 10, Ermita		No. 11, Malate		No. 12, Paco		No. 13, Pandacan		No. 14, Santa Ana			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
Under 1 year.....															213	
1 year plus.....															44	
2 years plus.....															8	
3 years plus.....															27	
4 years plus.....															34	
5 to 9 years.....															11	
10 to 14 years.....															23	
15 to 19 years.....															17	
20 to 24 years.....															43	
25 to 29 years.....															35	
30 to 34 years.....															21	
35 to 39 years.....															25	
40 to 44 years.....															17	
45 to 49 years.....															17	
50 to 54 years.....															20	
55 to 59 years.....															26	
60 to 64 years.....															13	
65 to 69 years.....															13	
70 to 74 years.....															22	
75 to 79 years.....															12	
80 to 84 years.....															10	
85 to 89 years.....															4	
90 to 94 years.....															8	
95 to 99 years.....															2	
100 years and over.....															7	
Age not stated.....															7	
Total.....	14	12	12	6	22	33	16	11	9	6	7	375	325	700	700	
Grand total.....	26												700		700	

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

International numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
5	a. Typhoid fever:			13	5					1				19
	Malaria:													
	a. Malarial fever:			2	1									3
	b. Malarial cachexia:				1									1
7	Measles:													1
9	Whooping cough:			1	1									2
10	Diphtheria:				2									2
11	Influenza:													
	a. With pulmonary complications specified:			3	1									4
	b. Without pulmonary complications specified:				4					3				7
14	Asiatic cholera:			13	11									24
16	Dysentery:													
	a. Asiatic:			2	1									3
	b. Bacillary:			1	4									5
	c. Unspecified or due to other causes:			2	2					1				5
21	Erysipelas:			1	1									2
23	Lethargic encephalitis:			1	1									2
24	Meningococcus meningitis:			1	1									2
25	Other epidemic and endemic diseases:			2										2
	c. Other under this title:													
29	Tetanus:													
	a. Umbilical:													
	b. Others:			1	4									5
31	Tuberculosis of the respiratory system:			1	1									2
32	Tuberculosis of the meninges and central nervous system:			71	63					1				139
33	Tuberculosis of the intestines and peritoneum:			2	2					5				9
34	Tuberculosis of the vertebral column:									1				2
36	Tuberculosis of other organs:			1	1									2
	b. Tuberculosis of the bones (vertebral column excepted):									1				1
37	Disseminated tuberculosis:													
	b. Chronic or unspecified:			1						1				2
38	Syphilis:			3										3

VI. Diseases of the digestive system

- 101 Ulcer of the stomach and duodenum:
 a. Ulcer of the stomach..... 1 4
 b. Ulcer of the duodenum..... 1 1
 102 Other diseases of the stomach (cancer excepted)..... 2 2
 103 Diarrhea and enteritis (under 2 years of age)..... 2 7
 104 Diarrhea and enteritis (2 years and over)..... 3 7
 105 Diseases due to other intestinal parasites:
 c. Nematodes (other than ancylostoma)..... 1 1
 106 Appendicitis and typhlitis..... 1 1
 107 Hernia, intestinal obstruction:
 a. Intestinal obstruction..... 1 1
 b. Not specified as alcoholic..... 1 2
 108 Other diseases of the liver..... 3 1
 109 Other diseases of the liver..... 1 1

VII. Nonsensory diseases of the genito-urinary system and annexa

- 128 Acute nephritis (including unspecified under 10 years of age)..... 6 4
 129 Chronic nephritis (including unspecified 10 years and over)..... 7 7
 130 Other diseases of the kidneys and annexa..... 1 1
 131 Diseases of the bladder..... 1 1
 132 Diseases of the prostate..... 1 1
 133 Salpingitis and pelvic abscess (female)..... 1 1
 134 Other diseases of the female genital organs..... 1 1

VIII. The puerperal state

- 144 Puerperal hemorrhage..... 2 2
 145 Puerperal septicemia..... 2 2
 146 Puerperal albuminuria and convulsions..... 2 2
 147 Following child birth (not otherwise defined)..... 1 1

IX. Diseases of the skin and of the cellular tissue

- 152 Furuncle..... 1 1
 153 Acute abscess..... 1 1
 154 Other diseases of the skin and annexa..... 1 1

XI. Malformations

- 159 Congenital malformations (stillbirths not included):
 c. Others under this title..... 1 1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and ascerens			17	15									32
161	Premature birth; injury at birth:													
162	a. Premature birth (not stillborn)			11	5									16
	Other diseases peculiar to early infancy			3	5					1				9
164	<i>XIII. Old age</i>													
164	Senility			15	19									34
165-203	<i>XIV. External causes</i>													
179	Accidental burns (conflagration excepted)				1									1
182	Accidental drowning			1						1				2
185	Accidental traumatism by fall			1	1									2
187	Accidental traumatism by machines			1						1				2
195	Lightning				2									2
198	Homicide by cutting or piercing instruments			2	1									3
202	Other external violence			1										1
204-205	<i>XV. Ill-defined diseases</i>													
205	Cause of death not specified or ill defined:				2									2
	a. Ill defined													
	Total	2	1	343	317	1		1		27	6	1	1	700
	Grand total	3		660		1		1		33		2		700

[illegible]

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough					2	2
11. Influenza:						
a. With pulmonary complications specified					2	2
16. Dysentery:						
c. Unspecified or due to other causes					2	2
21. Erysipelas					1	1
23. Lethargic encephalitis					1	1
24. Meningococcus meningitis					1	1
29. Tetanus:						
a. Umbilical				5		5
31. Tuberculosis of the respiratory system					1	1
38. Syphilis				2		2
55. Beriberi				10	57	67
56. Rickets					2	2
62. Diseases of the thymus gland	1					1
71. Meningitis:						
a. Simple meningitis					4	4
90. Other diseases of the heart					1	1
99. Bronchitis:						
a. Acute					24	24
b. Chronic					1	1
100. Bronchopneumonia:						
a. Bronchopneumonia					37	37
b. Capillary bronchitis					3	3
101. Pneumonia:						
a. Lobar					3	3
113. Diarrhea and enteritis					6	6
128. Acute nephritis					3	3
129. Chronic nephritis					1	1
152. Furuncle					1	1
154. Other diseases of the skin and annexa						
159. Congenital malformations (stillbirths not included):					1	1
c. Others under this title	1					1
160. Congenital debility, icterus, and sclerema	10	5		13	4	32
161. Premature birth; injury at birth:						
a. Premature birth (not still-born)	8	2	1	3	2	16
162. Other diseases peculiar to early infancy	4	1	1	2	1	9
205. Cause of death not specified or ill defined:						
a. Ill defined				1		1
Total	24	8	2	36	161	231

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF OCTOBER, 1925, CITY OF MANILA
CONFIRMED CASES

565

Health districts	Hospital				Home				Total				Grand total			
	Male		Female		Male		Female		Male		Female		Male		Female	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.																
No. 1.	6	2	2	1					6	2	2	1	8	3		
No. 2.			2								2		2			
No. 3.																
No. 4.	4	3	2		1	1			5	4	2	1	7	5		
No. 5.	3	2					1	1	3	2	1	1	4	3		
No. 6.																
No. 7.	4	1	4	1			1		4	1			9	1		
No. 8.			1										1			
No. 9.	4	1	2						4	1	2		6	1		
No. 10.	3		3	1					3		3		6			
No. 11.	7	1	4	1					7	1	4	1	11	2		
No. 12.	1		1		1	1			2	1	1		3	1		
No. 13.																
No. 14.																
Transients.	14	3	3	1					14	3	3	1	17	4		
Total.	46	14	24	6	6	2	2	1	48	16	26	7	74	23		

REMARKS:

Total cases reported within the month in the City of Manila.	82
Resident cases	62
Nonresident cases	20
Foreign cases	0
Total deaths reported within the month in the City of Manila	23
Deaths among resident cases	19
Deaths among nonresident cases	4
Deaths among foreign cases	0
Total cases confirmed as typhoid fever	73
Cases confirmed as paratyphoid fever	1
By autopsy	0
By blood culture	0
By widal reaction	0
By feces examination	0
By urine examination	0
By clinical symptoms	0
Total cases not confirmed	73
	8

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF OCTOBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.														
{ No. 1.					3	3	1	1	3	3	1	1	4	4
{ No. 2.														
{ No. 3.														
{ No. 4.	1	1							1	1			1	1
{ No. 5.			1	1							1	1	1	1
{ No. 6.	1	1	1	1	2	1			3	2	1	1	4	3
{ No. 7.	1	1	1	1										
{ No. 8.	2		1	1					2	1	1	1	3	1
{ No. 9.														
{ No. 10.														
{ No. 11.														
{ No. 12.							1	1			1	1	1	2
{ No. 13.			1	2										
{ No. 14.	3	2							3	2			3	2
Transients.														
Total.	7	4	5	5	5	4	2	2	12	8	7	7	19	15

REMARKS:

Total cases reported within the month in the City of Manila.

Resident cases

Non-resident cases

Total deaths reported within the month in the City of Manila.

Deaths among resident cases

Deaths among nonresident cases

Total cases not confirmed as dysentery.

Dysentery carrier—4

23

15

4

CHOLERA REPORTED DURING THE MONTH OF OCTOBER, 1925, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home				Total				Grand total			
	Male		Female		Male		Female		Male		Female		Male		Female		Male	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1.....	10	5	11	3	1	1	1	12	7	12	4	24	11	24	11	24	11
	No. 2.....	6	3	1	1	1	1	1	7	4	1	1	8	5	8	5	8	5
	No. 3.....	2							2				2		2		2	
	No. 4.....	8		5	3				8		5	3	13	3	13	3	13	3
II.	No. 5.....	1	1	2					1	1	2		3	1	3	1	3	1
	No. 6.....	2							2				2		2		2	
	No. 7.....	5	1	3			2	2	5	1	5	2	10	3	10	3	10	3
	No. 8.....	1							1				1		1		1	
	No. 9.....	2		2					2		2		4		4		4	
III.	No. 10.....																	
	No. 11.....	4							4				4		4		4	
	No. 12.....	3				1	1	1	3		1	1	4	1	4	1	4	1
	No. 13.....	2							2				2		2		2	
	No. 14.....																	
	Transients.	10		10	5				10	4	10	5	20	9	20	9	20	9
	Total.....	56	14	34	12	3	3	4	59	17	38	16	97	33	97	33	97	33

REMARKS:

Total cases reported within the month in the City of Manila

103

Resident cases

Nonresident cases

Foreign cases

Resident cases not confirmed as cholera

Nonresident cases not confirmed as cholera

Total deaths reported within the month in the City of Manila

Deaths among resident cases confirmed as cholera

Deaths among nonresident cases confirmed as cholera

Cholera carrier—99

DIPHTHERIA REPORTED DURING THE MONTH OF OCTOBER, 1925, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.		1	1							1	1	1	1
	No. 2.													
	No. 3.													
	No. 4.													
	No. 5.													
II.	No. 6.													
	No. 7.			1								1	1	1
	No. 8.													
	No. 9.	1							1				1	1
	No. 10.													
III.	No. 11.	2							2				2	2
	No. 12.	1		1					1				1	1
	No. 13.													
	No. 14.	1							1				1	1
	Transients.													
	Total.	5		2					5			2	7	2

REMARKS:

Total cases reported within the month in the City of Manila.....

Resident cases.....

Nonresident cases.....

Resident cases not confirmed as diphtheria.....

Nonresident cases not confirmed as diphtheria.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases confirmed as diphtheria.....

Deaths among resident cases not confirmed as diphtheria.....

Deaths among nonresident cases confirmed as diphtheria.....

Deaths among nonresident cases not confirmed as diphtheria.....

Diphtheria carrier—3

9

1

2

1

1

2

2

0

0

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	25,071
Number of rats caught by spring traps.....	2,735
Number of cage wire traps set.....	738
Number of rats caught by cage wire traps.....	11
Number and kind of baits (coconuts).....	25,809
Number of poison portions placed.....	14,882
Number of rats found poisoned.....	187
Number of rats killed by clubs and other weapons.....	642
Number of rats found dead from other causes.....	238
Total number of rats otherwise caught, found dead or killed.....	3,863
Total number of rats sent to the Laboratory for Examination.....	3,863
Total number of rats found positive for plague.....	0

OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF OCTOBER, 1925

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	2	2	2	2
Varicella.....	8			
Varioloid.....				
Smallpox.....				
Measles.....	7	1	1	
Whooping cough.....	1	1	1	1
Influenza.....	16	7	6	5
Bubonic plague.....				
Encephalitis lethargica.....	1		1	
Meningitis cerebrospinal epidemic.....	2		2	
Pulmonary tuberculosis.....	141	105	76	63
Tuberculosis of all forms.....	7	5	7	5
Beriberi, infantile.....	33	26	33	26
Beriberi, adult.....	1	3	1	3

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	2			
Varicella.....				
Varioloid.....				
Smallpox.....				
Measles.....	2			
Whooping cough.....				
Influenza.....	3			
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	16	13	10	9
Tuberculosis of all forms.....				
Beriberi, infantile.....	4	4	4	4
Beriberi, adult.....				

REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF OCTOBER, 1925

Sera and vaccines	On hand October 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	385,000		385,000	335,000	50,000
Anti-dysenteric serum (ampoules).....	149		149	40	109
Anti-tetanic serum (units).....	430,000	570,000	1,000,000	420,000	580,000
Cholera serum (ampoules).....		2	2	2	
Cholera vaccine (c.c.).....	3,180	690,120	693,300	655,920	37,380
Dried vaccine virus (units).....	26,500	100,550	127,050	88,950	38,100
Fresh vaccine virus (units).....	69,600	200,000	269,600	180,700	88,900
Gonococcus vaccine (ampoules).....		100	100	100	
Mixed typhoid-cholera vaccine (c.c.).....		283,080	283,080	272,220	10,860
Normal horse serum (ampoules).....		10	10	10	
Streptococcus vaccine (ampoules).....					
Typhoid vaccine (c.c.).....	5,510	21,000	26,510	15,300	11,210

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF OCTOBER, 1925

Health districts	Municipal districts	Total vaccinations	Vaccinations		Inspection of persons vaccinated						Total		
			Never	Successfully	Previously vaccinated		Under 1 year		1 to 4 years			5 years and over	
					Unsuccessfully	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1	Tondo	3,025	381	2,635	9	370	6	125	56	194	119	689	181
	San Nicolas	322	36	285	1	22	1	2				24	1
	Binondo	66	63		3	66	2					66	2
	Santa Cruz	3,264	268	2,818	178	225	2	73	35	303	611	601	648
	Quiapo	20	20			27		2				29	
No. 2	San Miguel	15	15			13		4				17	
	Sampaloc	203	200		3	217	1	1				218	1
	Port Area												
	Intramuros	39	35		4	42	3	6				48	3
	Ermita	60	59		1	70	1	4				74	1
No. 3	Malate	2,960	183	2,752	25	183	2	25	14	112	129	320	145
	Paco	45	39		6	55	4	5				60	4
	Pandacan	17	17			27	7	3				30	7
	Santa Ana	37	37			24	1	4				28	1
	Total	10,073	1,353	8,490	230	1,341	30	254	105	609	859	2,204	991

Vaccine virus:

Received	15,100
Used	14,600
Remained	500

**ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA
DURING THE MONTH OF OCTOBER, 1925**

Health districts	Municipal districts	Number of injections made in				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. I	Tondo	14,062		5,168		19,230	
	San Nicolas	9,442		3,295		12,737	
	Binondo	6,914		3,865		10,779	
No. II	Santa Cruz	10,161		7,304		17,465	
	Quiapo	4,557		1,007		5,564	
	San Miguel	1,565		792		2,357	
	Sampaloc	8,974		2,261		11,235	
	Port Area	531		303		834	
No. III	Intramuros	3,761		700		4,461	
	Ermita	1,355		915		2,270	
	Malate	4,875		2,604		7,479	
	Paco	6,582		2,090		8,672	
	Pandacan	6,127		2,996		9,123	
	Santa Ana	2,268		1,079		3,347	
Total		81,174		34,379		115,553	

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF OCTOBER, 1925¹

Health districts	Municipal districts	Number of injections made in—												Total number of injections					
		Adults						Children						First		Second		Third	
		First injections		Second injections		Third injections		First injections		Second injections		Third injections							
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1.	Tondo.	3,662	5,211	2,480	3,274	13	114	2,397	4,305	1,949	2,140	54	4	6,059	9,516	4,429	5,414	67	118
	San Nicolas.	1,201	1,370	1,137	1,155	36	65	453	1,097	341	47	50		1,654	2,467	1,478	1,202	86	65
	Binondo.	1,422	1,890	1,140	1,674	47	56	482	1,094	366	71	154		1,904	2,984	1,506	1,745	201	56
	Santa Cruz.	1,734	2,534	1,451	2,174	21	93	733	1,817	546	415	91		2,487	4,351	1,997	2,589	112	93
No. 2.	Quiapo.	620	1,070	580	610	29	37	134	249	127	66	34		754	1,319	707	676	63	37
	San Miguel.	25	434		229			60	121	16	51			85	555	16	280		
	Sampaloc.	3,256	3,056	2,317	2,539	90	212	1,493	293	1,196	709	303	59	4,749	3,349	3,513	3,248	393	271
	Port Area.																		
No. 3.	Intramuros.	1,142	1,242	793	1,189	45	88	1,300	528	1,234	31	332	1	2,442	1,770	2,027	1,220	377	89
	Ermita.	744	893	345	1,616	43	12	427	162	309	182	34	2	1,171	1,055	654	1,798	77	14
	Malate.	185	661	258	620	59	92	139	102	125	80	29		324	763	383	700	88	92
	Paco.	1,647	1,555	1,401	1,477	48	68	1,330	490	1,244	719	155		2,977	2,045	2,645	2,196	203	68
	Pandacan.	330	505	258	220	29	39	67	273	28	1	10		397	778	286	221	39	39
	Santa Ana.	278	614	150	116	49	48	121	421	64	46	51		399	1,035	214	162	100	48
Total.		16,246	21,035	12,310	16,893	509	924	9,156	10,952	7,545	4,558	1,297	66	25,402	31,987	19,855	21,451	1,806	990

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine for the third injections.

V., in persons never vaccinated before; R., revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Total vaccina- tions	Vaccinations		
		Never	Success- fully	Unsuccess- fully
Abra	29,812	4,073	18,820	6,919
Agusan	2,453	613	814	1,026
Albay	29,131	7,596	8,249	13,286
Antique	7,891	3,888	2,146	1,857
Bataan	11,393	2,940	4,517	3,936
Batanes	748	207	232	309
Batangas	32,613	9,076	7,316	16,221
Bohol	151,187	29,854	82,438	38,895
Bulacan	158,704	26,078	121,683	10,943
Cagayan	44,425	6,376	21,089	16,960
Camarines Norte	5,136	1,685	1,498	1,953
Camarines Sur	134,265	15,455	91,340	27,470
Capiz	93,288	27,431	51,445	14,412
Catanduanes	13,193	3,466	3,013	6,714
Cavite	29,834	5,145	15,865	8,824
Cebu	80,337	24,790	18,889	36,658
Cotabato	15,562	4,767	4,810	5,985
Culion Leper Colony	328	27	220	81
Davao	7,136	3,126	1,871	2,139
Ilocos Norte	23,399	6,096	6,813	10,490
Ilocos Sur	60,795	11,427	29,546	19,822
Iloilo	58,448	26,946	10,152	21,350
Isabela	9,880	2,910	3,903	3,067
Laguna	20,867	7,578	5,406	7,883
Lanao	13,583	3,049	7,021	3,513
La Union	97,593	9,720	68,187	19,686
Leyte	66,242	24,990	9,137	32,115
Marinduque	7,151	1,579	2,402	3,170
Masbate	10,025	2,566	3,595	3,864
Mindoro	5,998	1,229	1,654	3,115
Misamis	57,529	17,670	29,310	10,549
Mountain Province	15,326	4,893	5,541	4,892
Nueva Ecija	27,917	9,012	7,702	11,203
Nueva Vizcaya	10,469	1,202	5,757	3,510
Occidental Negros	20,182	10,247	3,723	6,212
Oriental Negros	27,263	6,702	9,675	10,886
Pampanga	25,546	2,322	11,009	12,214
Pangasinan	67,313	21,364	8,361	37,588
Palawan	25,045	7,531	11,201	6,313
Rizal	23,103	6,234	11,889	5,480
Romblon	5,642	2,365	1,253	2,024
Samar	157,006	25,751	87,134	44,121
Sorsogon	17,413	5,162	6,314	5,937
Sulu	24,386	10,747	6,494	7,145
Surigao	35,066	10,556	9,681	14,829
Tarlac	14,536	3,114	8,313	3,109
Tayabas	30,542	9,824	8,561	12,157
Zambales	6,461	1,493	2,516	2,462
Zamboanga	18,292	5,279	5,550	7,463
Total	1,830,453	436,151	843,555	550,747

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	775	383	3,758	1,839	10,129	6,960	14,662	9,182
Agusan.....	228	105	113	91	208	608	549	804
Albay.....	2,577	1,119	2,548	1,075	5,800	4,046	10,925	6,240
Antique.....	847	141	1,799	410	1,548	874	4,194	1,425
Bataan.....	1,689	295	3,001	1,550	2,747	1,670	7,437	3,515
Batanes.....	90	19	204	52	326	36	620	107
Batangas.....	4,310	651	6,307	1,950	7,504	6,390	18,121	8,991
Bohol.....	4,453	774	17,401	3,508	51,272	40,259	73,126	44,541
Bulacan.....	7,632	637	15,356	3,181	46,989	40,043	69,977	43,861
Cagayan.....	2,360	439	5,408	1,320	17,723	10,821	25,491	12,580
Camarines Norte.....	947	197	964	287	1,528	579	3,439	1,063
Camarines Sur.....	4,184	781	11,209	2,608	50,955	22,580	66,348	25,969
Capiz.....	5,672	897	10,901	2,092	32,563	10,123	49,136	13,112
Catanduanes.....	1,451	647	1,650	657	1,867	1,413	4,968	2,717
Cavite.....	3,268	606	4,771	1,381	12,413	7,242	20,452	9,229
Cebu.....	7,273	2,893	9,971	3,285	13,687	12,565	30,931	18,743
Cotabato.....	273	186	924	688	3,564	3,198	4,761	4,072
Culion Leper Colony.....	19	6	8	3	173	119	200	128
Davao.....	338	100	1,195	438	3,309	1,285	4,842	1,823
Ilocos Norte.....	2,527	357	5,289	1,095	6,723	5,394	14,539	6,846
Ilocos Sur.....	6,265	1,411	11,419	3,765	21,327	11,326	39,011	16,502
Iloilo.....	7,710	738	11,792	1,922	16,401	6,779	35,903	9,439
Isabela.....	386	176	1,348	617	2,830	2,391	4,564	3,181
Laguna.....	3,551	968	3,197	1,348	4,412	5,693	11,160	8,009
Lanao.....	823	151	1,440	487	2,293	1,084	4,556	1,722
La Union.....	3,954	702	10,369	5,325	29,393	24,029	43,716	30,056
Leyte.....	6,218	1,888	9,072	3,359	15,829	7,347	31,119	12,594
Marinduque.....	648	208	914	324	2,336	1,060	3,898	1,592
Masbate.....	531	231	968	1,416	2,511	1,988	4,010	3,635
Mindoro.....	399	98	853	348	1,869	1,206	3,121	1,652
Misamis.....	1,535	640	5,554	1,599	17,375	6,136	24,464	8,375
Mountain Province.....	658	124	1,862	660	3,728	2,068	6,248	2,852
Nueva Ecija.....	3,829	1,023	5,645	2,222	6,711	5,318	16,186	8,563
Nueva Vizcaya.....	496	38	1,212	556	3,230	2,775	4,938	3,369
Occidental Negros.....	3,684	810	3,739	1,137	4,095	1,341	11,518	3,288
Oriental Negros.....	3,024	953	4,311	1,949	7,580	4,473	14,915	7,375
Pampanga.....	2,362	452	3,134	1,018	8,654	8,602	14,150	10,072
Pangasinan.....	10,470	2,080	14,012	3,850	16,278	11,959	40,760	17,889
Palawan.....	410	32	1,949	207	8,558	5,191	10,917	5,430
Rizal.....	3,310	833	3,176	1,492	4,520	5,903	11,006	8,228
Romblon.....	656	153	1,169	344	1,621	839	3,446	1,336
Samar.....	4,071	1,028	15,057	4,554	56,208	22,069	75,336	27,651
Sorsogon.....	1,667	529	2,727	1,245	4,414	2,799	8,808	4,573
Sulu.....	878	336	4,151	1,258	7,145	2,520	12,174	4,114
Surigao.....	1,299	406	3,406	880	9,725	4,323	14,430	5,609
Tarlac.....	1,445	332	1,866	942	3,086	4,858	6,397	6,132
Tayabas.....	3,081	684	4,796	1,309	11,286	5,687	19,163	7,680
Zambales.....	739	161	879	520	1,702	2,016	3,320	2,696
Zamboanga.....	1,339	929	1,724	1,419	2,590	3,456	5,653	5,801
Total.....	126,351	29,347	234,518	73,582	548,735	341,440	909,604	444,389

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925 ¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra						
Agusan						
Albay	10,792	7,495	1,636	1,601		
Antique						
Bataan						
Batanes						
Batangas	369	175	56	20		
Bihol						
Bukidnon						
Bulacan	4,554	6,282	191	695		
Cagayan						
Camarines Norte	94	98	39			
Camarines Sur	10,793	7,838				
Capiz						
Catanduanes	126	129	152	144		
Cavite						
Cebu	1,639	2,503	242	162		
Cotabato						
Davao	16	36				
Ilocos Norte						
Ilocos Sur						
Iloilo	1		1			
Isabela	11	5	9	2		
Laguna	232	34				
Lanao						
La Union						
Leyte						
Marinduque						
Masbate						
Mindoro						
Misamis						
Mountain Province						
Nueva Ecija						
Nueva Vizcaya						
Occidental Negros						
Oriental Negros						
Palawan						
Pampanga	954	1,237	808	1,161		
Pangasinan	165	143	62	43		
Rizal	96	151				
Romblon						
Samar						
Sorsogon	2,148	132	171	78		
Sulu						
Surigao						
Tarlac						
Tayabas						
Zambales						
Zamboanga						
Total	31,980	26,258	3,367	3,906		

¹ Incomplete; reports from other provinces not yet received.

A., means persons of 15 and over 15 years of age; C., below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....									
Agusan.....									
Albay.....	7,719	5,647	1,453	1,208			31,653	5,898	
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	439	158	130	28			1,141	234	
Bohol.....									
Bukidnon.....									
Bulacan.....	3,990	4,006	132	460			18,832	1,478	
Cagayan.....									
Camarines Norte.....	47	53	4				292	43	
Camarines Sur.....	9,133	6,738					34,502		
Capiz.....									
Catanduanes.....	34	89	81	114			378	491	
Cavite.....									
Cebu.....	1,262	2,179	195	121			7,583	720	
Cotabato.....									
Davao.....	6	20					78		
Ilocos Norte.....									
Ilocos Sur.....									
Iloilo.....	6		6				7	7	
Isabela.....	8	6	4	1			30	16	
Laguna.....	93	20					379		
Lanao.....									
La Union.....									
Leyte.....									
Marinduque.....									
Masbate.....									
Mindoro.....									
Misamis.....									
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Palawan.....									
Pampanga.....	1,029	1,021	822	849			4,241	3,640	
Pangasinan.....	84	144	41	55			526	201	
Rizal.....	73	92					412		
Romblon.....									
Samar.....									
Sorsogon.....	866	183	204	175			3,329	628	
Sulu.....									
Surigao.....									
Tarlac.....									
Tayabas.....									
Zambales.....									
Zamboanga.....									
Total.....	24,789	20,356	3,072	3,011			103,383	13,356	

A., means persons of 15 and over 15 years of age; C., below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....						
Agusan.....						
Albay.....	133	163	4	19	1	
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	873	152	606	153	70	1
Bohol.....						
Bukidnon.....						
Bulacan.....	496	181	459	172	318	107
Cagayan.....						
Camarines Norte.....						
Camarines Sur.....						
Capiz.....						
Catanduanes.....						
Cavite.....						
Cebu.....	108	77	8	2		
Cotabato.....						
Davao.....						
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....	53	30	21	6	19	6
Isabela.....	46	17	36	9	37	4
Laguna.....						
Lanao.....						
La Union.....					402	30
Leyte.....	32	49	22	16	12	8
Marinduque.....						
Masbate.....						
Mindoro.....	4	4	4	4	4	4
Misamis.....	204	94	21	17		
Mountain Province.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Palawan.....						
Pampanga.....						
Pangasinan.....	368	298	218	163	125	124
Rizal.....	121	29	61	12	50	11
Romblon.....						
Samar.....	251	45	162	27	52	4
Sorsogon.....	80	16	14		20	4
Sulu.....						
Surigao.....						
Tarlac.....	65	1	54	1	26	1
Tayabas.....						
Zambales.....						
Zamboanga.....						
Total.....	2,834	1,156	1,689	601	1,136	304

¹ Incomplete: reports from other provinces not yet received.

A., means persons of 15 and over 15 years of age; C., below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....									
Agusan.....									
Albay.....	73	101		4			470	27	1
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	659	194	457	153	50	1	1,878	1,368	122
Bohol.....									
Bukidnon.....									
Bulacan.....	578	209	534	194	392	116	1,464	1,359	933
Cagayan.....									
Camarines Norte.....									
Camarines Sur.....									
Capiz.....									
Catanduanes.....									
Cavite.....									
Cebu.....	109	59	4	2			353	16	
Cotabato.....									
Davao.....									
Ilocos Norte.....									
Ilocos Sur.....									
Iloilo.....	76	16	38	2	46	2	175	67	73
Isabela.....									
Laguna.....	44	10	33	10	35	11	117	88	87
Lanao.....									
La Union.....					260	21			713
Leyte.....	49	33	33	20	6	2	163	91	28
Marinduque.....									
Masbate.....									
Mindoro.....	4	1	4	1	4	1	13	13	13
Misamis.....	189	100	78	12			587	128	
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Palawan.....									
Pampanga.....									
Pangasinan.....	376	311	251	157	206	98	1,353	789	553
Ribal.....	83	28	45	18	49	15	261	136	125
Romblon.....									
Samar.....	146	22	115	14	23	3	464	318	82
Sorsogon.....	93	80	16			4	269	30	28
Sulu.....									
Surigao.....									
Tarlac.....	3	3	3	3	2	3	72	61	32
Tayabas.....									
Zambales.....									
Zamboanga.....									
Total.....	2,482	1,167	1,611	590	1,073	277	7,639	4,491	2,790

A., means persons of 15 and over 15 years of age; C., below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra	19	3	463	31		
Agusan						
Albay	120	9	37	7		
Antique	570	920	218	377		
Bataan	885	275	389	99		
Batanes	235	78	51	13		
Batangas	124	61	101	55		
Bohol	680	224	472	166		
Bukidnon						
Bulacan	2,134	964	1,159	552		
Cagayan	401	192	178	115		
Camarines Norte	622	41	223	15		
Camarines Sur	2,047	1,046	1,312	647		
Capiz	1,597	594	693	287		
Catanduanes						
Cavite	2,676	3,195	2,328	3,079		
Cebu	10,362	7,356	3,013	1,578		
Cotabato	717	454	186	223		
Davao	93	112	65	112		
Ilocos Norte	1,558	1,526	654	1,057		
Ilocos Sur	1,607	703	717	378		
Iloilo	815	430	437	250		
Isabela						
Laguna	2,804	1,766	1,584	1,161		
Lanao	123	168	29	24		
La Union	2,262	1,481	1,980	1,254		
Leyte	2,739	1,115	1,160	590		
Marinduque	1,019	1,083	692	709		
Masbate	648	599	564	74		
Mindoro	191	178	16	1		
Misamis	992	335	289	30		
Mountain Province	299	222				
Nueva Ecija	1,084	418	663	411		
Nueva Vizcaya	519	408	311	387		
Occidental Negros	2,832	1,943	1,878	1,020		
Oriental Negros	686	469	661	324		
Palawan						
Pampanga	8,582	8,373	6,102	6,795		
Pangasinan	6,796	5,985	5,619	5,199		
Rizal	8,903	5,065	1,820	703		
Romblon	56	135	34	76		
Samar	180	168	82	88		
Sorsogon	729	265	104	64		
Sulu	34	3	26	2		
Surigao	176	8	158	63		
Tarlac	871	843	376	311		
Tayabas	1,855	386	861	193		
Zambales	687	535	648	492		
Zamboanga	3,099	2,181				
Total	75,428	52,315	38,323	29,012		

¹ Incomplete; reports from other provinces not yet received.

A., means persons of 15 and over 15 years of age; C., below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....	6	1	222	34			29	750	
Agusan.....									
Albay.....	123	9	41	6			261	91	
Antique.....	526	831	252	321			2,847	1,168	
Bataan.....	662	186	303	58			2,008	849	
Batanes.....	169	48	25	9			530	98	
Batangas.....	180	24	123	15			339	294	
Bohol.....	622	269	393	210			1,795	1,241	
Bukidnon.....									
Bulacan.....	1,786	824	1,043	514			5,708	3,268	
Cagayan.....	205	172	92	102			970	487	
Camarines Norte.....	214	48	50	8			925	296	
Camarines Sur.....	1,688	911	1,140	604			5,692	3,703	
Capiz.....	1,108	432	459	213			3,731	1,652	
Catanduanes.....									
Cavite.....	2,685	2,701	2,300	2,521			11,257	10,228	
Cebu.....	7,999	5,717	2,213	1,406			31,434	8,210	
Cotabato.....	227	291	71	174			1,689	654	
Davao.....	38	77	26	77			320	280	
Ilocos Norte.....	1,781	1,522	816	1,020			6,387	3,547	
Ilocos Sur.....	1,092	612	481	307			4,014	1,883	
Iloilo.....	712	312	488	182			2,269	1,357	
Isabela.....									
Laguna.....	3,039	1,333	1,873	964			8,942	5,532	
Lanao.....	100	212	24	37			603	114	
La Union.....	1,754	1,098	1,507	642			6,595	5,383	
Leyte.....	1,987	2,087	1,126	585			7,878	3,461	
Marinduque.....	728	935	438	726			3,760	2,565	
Masbate.....	260	396	254	61			1,903	943	
Mindoro.....	54	117	71	38			540	126	
Misamis.....	856	396	228	26			2,579	573	
Mountain Province.....	177	241					939		
Nueva Ecija.....	594	437	511	553			2,533	2,138	
Nueva Vizcaya.....	392	386	228	371			1,705	1,297	
Occidental Negros.....	1,984	1,916	1,444	1,076			8,625	5,418	
Oriental Negros.....	305	360	381	309			1,820	1,675	
Palawan.....									
Pampanga.....	9,079	6,772	6,373	5,436			32,806	24,706	
Pangasinan.....	6,500	5,485	5,420	4,818			24,766	21,056	
Rizal.....	8,395	4,141	2,083	623			26,504	5,229	
Romblon.....		86		42			277	152	
Samar.....	110	135	55	72			593	297	
Sorsogon.....	799	244	114	43			2,037	325	
Sulu.....	14	4	12	2			55	42	
Surigao.....	115	7	95	56			306	372	
Tarlac.....	414	604	155	179			2,732	1,021	
Tayabas.....	1,179	245	497	75			3,665	1,646	
Zambales.....	562	506	542	474			2,290	2,156	
Zamboanga.....	2,918	2,061					10,259		
Total.....	63,983	45,191	33,969	24,979			236,917	126,283	

A., means persons of 15 and over 15 years of age; C., below 15 years of age.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF OCTOBER, 1925**

(No case and no death reported during the month)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF OCTOBER, 1925**

Provinces and towns	Cases	Deaths
Batangas:		
Malvar	2	
Bulacan:		
Baliuag	1	1
Bocaue	13	8
Bulacan	42	22
Calumpit	1	1
Guiguinto	1	1
Hagonoy	1	1
Malolos	32	14
Marilao	1	
Meycauayan	6	3
Paombong	2	2
Polo	3	2
Pulilan	4	3
San Rafael	1	1
Nueva Ecija:		
Bungabon	1	1
San Antonio	3	1
Rizal:		
Caloocan	11	3
Malabon	10	4
Navotas	6	3
Paranaque	8	
Pasay	8	2
Pateros	1	
San Felipe Nery	1	
San Juan del Monte	1	1
San Pedro Makati	7	3
Taytay	3	2
Total	170	79

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF OCTOBER, 1925**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending October 1, 1925:				
Minor.....	138	89	104	331
Sewer.....	22	59	6	87
Vacating.....	8	15	7	30
Filling.....	10	32	12	54
Total.....	178	195	129	502
Orders issued during the month:				
Minor.....	16	9	6	31
Sewer.....	3			3
Vacating.....	2			2
Filling.....		2	1	3
Total.....	21	11	7	39
Orders completed during the month:				
Minor.....	9	11	6	26
Sewer.....	1	3		4
Vacating.....		1		1
Filling.....		3		3
Total.....	10	18	6	34
Orders cancelled during the month:				
Minor.....				
Sewer.....				
Vacating.....				
Filling.....				
Total.....				
Orders pending October 31, 1925:				
Minor.....	145	87	104	336
Sewer.....	24	56	6	86
Vacating.....	10	14	7	31
Filling.....	10	31	13	54
Total.....	189	188	130	507
Strong material plans approved:				
New buildings including additions and alterations.....	26	53	41	120
Permits for minor building construction:				
Approved.....	47	39	33	119
Disapproved.....	14	9	7	30
New buildings completed.....	17	43	39	99
Permits for light and mixed material construction:				
Approved.....	11	18	13	42
Disapproved.....	10	3	2	15
Prosecutions:				
Convictions.....	1	2		3
Dismissals.....	2	3		5
Amount of fines.....	P10	P20		P30
Plumbing projects issued.....	78	80	54	212
Plumbing projects completed.....	89	117	47	253
Premises connected to the sanitary sewer to September 30, 1925.....	2,439	4,151	506	7,096
Connected during the month.....	3	7	9	19
Total.....	2,442	4,158	515	7,115

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

NOVEMBER, 1925

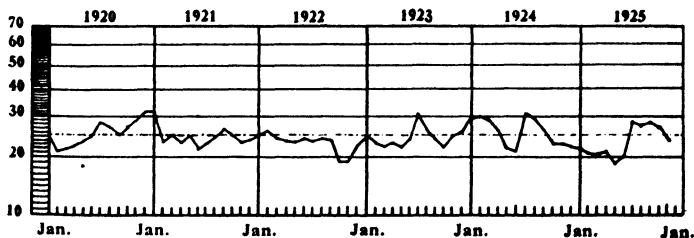
No. 11

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



..... Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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PHILIPPINE HEALTH SERVICE

Vol. V

NOVEMBER, 1925

No. 11

THE RED CROSS AND PUBLIC HEALTH

By Miss **VIRGINIA M. GIBBES**

*Directress, Nursing Activities of the Philippine Chapter,
American Red Cross*

The first thing of importance in conducting a public-health nursing service is the training and selection of nurses. Public-health nursing is a distinct branch of the profession of nursing and requires, first of all, special training before we can expect a graduate nurse to succeed. With this in view the Red Cross is doing everything possible to contribute to the success of the post-graduate school for public-health nurses started by the Philippine Health Service, the Rockefeller Foundation, and the University of the Philippines. However, the school has not reached the point where we can require every nurse who goes on duty to have this six months course. Therefore, we are giving every nurse the opportunity to spend one month in Manila and learn the programs of health work being developed by the Philippine Health Service, the Public Welfare Bureau, the schools and in our own center. In addition to special training the nurse should have the quality of leadership. This means initiative and devotion to duty which commands the confidence of the people with whom she is working. A public health nurse is also a teacher and should have the ability to pass on her knowledge to the parents, the school child, and all others with whom she comes in contact. A public-health nurse must also be a good mixer and she must have an enthusiasm for the betterment of the community in which she or he is established.

**RELATION TO CONTROL OF TUBERCULOSIS AND OTHER
COMMUNICABLE DISEASES**

It is all very well to have laws in regard to the reporting and isolation of communicable diseases, but we must not only isolate

but educate the people if we expect to control the spread of any type of communicable disease. No one can do this better than the nurse who goes into the homes with a bag of supplies and equipment for demonstrating the proper care of the patient and how to keep his clothing and dishes separate from those of the other members of the family; and to show the mother how to disinfect all articles which come in contact with the patient; how to take care of her own hands and how to take care of the case so that he will get well as soon as possible. This is the method, of course, to be used in homes where no hospital for contagious diseases is available, but where there is one the nurse should know about it and should make every effort to get the patient admitted as soon as possible. If the patient had not seen a doctor and the doctor is available the nurse will see that a doctor is called, and that the case is reported to the Philippine Health Service.

RELATION TO INFANT MORTALITY

Dr. C. E. A. Winslow, Dean of the public health at Yale, says that the real value of the public-health nurse is that she not only tells the mother how to care for herself and her baby but she shows them by doing it herself and demonstrating until the mother can do the same thing almost as well as the nurse can,—this applies to the bathing, feeding, and clothing of babies. Doctor Winslow says, "She is the messenger who brings the last word of science to the place where it must really be applied if our knowledge is to be effective." In estimating the importance and value of the public-health nurses Doctor Winslow says that to have an adequate nursing staff there should be one general public-health nurse to every five to ten thousand people in rural communities and an additional nurse for every three thousand school children. This brings to our attention very forcibly the fact that every nurse now at work is a real pioneer and that it will be a long time before we have an adequate number of nurses on duty in the Philippine Islands.

RELATION TO SCHOOL HEALTH WORK

The nurse who does school work does not undertake to make a medical examination. She simply make an individual health inspection of each child; making a note of abnormal conditions of the eyes, ears, nose, throat, teeth, posture, and glands. Each child should also be weighed and measured. To record the health inspection made in the schools the Red Cross has issued a pupil's health record card. This card also has a space for

examinations or inspection for contagious disease which might be needed by the health officer, and at the bottom of the card, it is stated that the inspection should not be made by the nurse only, unless no doctor is available. This record should go with each pupil from one year to the next and every inspection or examination should be recorded on it. In this way the teacher is interested and one can easily see the connection between the physical condition of the child and the work which he does in school. Any child who has his teeth put in perfect condition and whose other defects are corrected is bound to show improvement in the marks made on the subjects which he is learning at school; thus the child gets more out of his opportunity for education and the work is made easier for the teacher. The question of follow up work to correct the defects found among school children is a very pressing one in the Philippines. This will go a long way in correcting this type of defects, but the question of enlarged tonsils, trachoma, and other eye infection is one that should be taken up by the Government. Nose and throat specialists might be employed to hold clinics in the provinces and an emergency hospital organized for the purpose. This has been done successfully in Laguna Province where 27 children were operated upon last November for enlarged tonsils. For this purpose the services of Dr. F. Nicolas of the Philippine General Hospital were loaned to the Red Cross. Every child operated upon had a written request from the parent asking for the operation and had a preliminary examination of his heart and lungs by the doctors in the community as well as a urine examination and blood test. Thirty-five cases who applied for operation had to be turned down but the demonstration proved conclusively that such a clinic is practical in the provinces.

It would be foolish to inspect children for defects and work to get this defects corrected unless we work also to prevent the formation of defects. This can only be done by securing the enthusiasm of the children and the nurse can do a great deal in the establishment of health habits by giving drills in the use of the handkerchief and the toothbrush and by making health talks on the rules of the health game, and with the use of health verses which we have available now from many sources. The rules of the health game as sent out by the American Child Health Association are:

1. A full bath more than once a week.
2. Brushing the teeth at least once every day.
3. Sleeping long hours with windows open.

4. Drinking as much milk as possible, but no tea or coffee.
5. Eating some vegetables or fruit every day.
6. Drinking at least four glasses of water a day.
7. Playing part of every day out of doors.
8. A bowel movement every day.

THE HOME HYGIENE CLASSES

There is a textbook in Home Hygiene and Care of the Sick issued by the National Red Cross which gives fifteen lessons in the proper care of the sick and the proper care of the babies in the home. Each one of these lessons are demonstrated and usually women and girls are most enthusiastic over taking the course. In the Washington Division of the Red Cross 9,800 women were under training. In the Philippines we have had only one class so far. However, we expect to extend this service to many of the provinces. In my experience in the states, wherever these classes are taught extensively it means a more enlightened public opinion for health. The women are then able to coöperate with the doctors, with the public-health nurses to improve health conditions not only in their own homes but in their towns or communities. I hope that this service will grow in the coming year and that many girls and women will take advantage of the opportunity to get this simple training which is designed to make them better mothers and better citizens.

RELATION TO THE MEDICAL PROFESSION

Every nurse who goes out to the provinces under the Red Cross knows that they should undertake no treatment of disease even of simple cases that has not been approved by the health officer in the town or province. We all know that much of this treatment must be done by the nurse but the method should be decided upon in advance and approved by the Health Officer or the doctors.

In reference to the practice of medicine, Doctor De Jesus, (formerly Director of Health) says that the people are not enlightened enough to appreciate the advantage of medical assistance. This is true to a certain extent the world over, but where you have a visiting nurse at work you may be sure that every one of these nurses who have had special training all know that all ill patients must be referred to a doctor where one is available. Where the nurse finds a case of illness her first questions are, "Have you a family doctor?" or "Who would you like to call in to see this patient?" Every nurse should know that they must depend on the doctor to help make their work

successful and must guard against having any body think that her work can possibly take the place of the work of the doctor.

RELATION TO THE GOVERNMENT HEALTH SERVICE

In the twenty-eight states of the United States, public-health nursing is organized within the State Health Department as a separate bureau or division with a chief nurse in charge who is directly responsible to the State Health Director. Where the bureaus desire the services of nurses in carrying on their work, the Directing Nurse is applied to and she details nurses to the service of other bureau but has supervision of the nursing procedure which they are supposed to carry out. In addition to this, all nurses working in local communities should be under supervision of the public-health nursing bureau and the Director of nursing should work throughout her entire territory.

CONCLUSION

In the one year which I have served in the Philippines there are many interesting things about the country and the problems which have come up to my attention. While we had last year only eleven nurses in the Red Cross, there are now a total of 18 nurses working throughout the Islands. Many of them are in distant and isolated towns and they are scattered from Jolo and Mindanao to Batanes Islands. Almost 90 per cent of them have been successful in spite of the inadequate supervision which we have been able to give them so far. By supervision I simply mean that two heads are better than one and that the service which we are working for is a real "team job." The supervising nurse sees the problems from one point of view and the local nurse sees it from another point of view. The local nurse knows her own province and special problems best; the supervising nurse can compare the work of many nurses in many provinces and can interchange ideas and pass on to each one of the nurses the benefit of the experience of the others. She acts as a sort of captain for the team. I have the greatest admiration for each nurse in the service for they are doing splendid work. I am sure that the work they are doing is largely made possible in most of the provinces by the coöperation and support of the Philippine Health Service. On our Chapter Health and Nursing Committee the Philippine Health Service is represented by Dr. J. Bantug and I want to take this opportunity to thank him for his regular attendance at the meetings and for his valuable support and suggestions in developing the work. I am sure that each one of you sees many things necessary in the

public-health field that you can not accomplish on account of lack of funds, but the work of the volunteers agencies, the Red Cross and others is to develop a public opinion for health. Wherever there are nurses at work you will find a growing interest in health matters among the women and the people who belong to the Red Cross Branches. No doubt, the time will come when these people will say, "We must give our Government agency more money. We are willing to pay more taxes because we need a more adequate health service." When the local and Insular Governments are ready to support an adequate public-health nursing program in connection with the Government, the Red Cross will be ready to withdraw; but even when the Red Cross nursing service does withdraw, and you will agree with me that this is a great many years off yet, if public health is what it should be, you will still need the spirit which we like to call the spirit of the Red Cross. I mean *service*, *enthusiasms*, and *devotion to duty* on the part of the official and private citizens in the provinces and in the country.

RELATION OF THE WORK OF TEACHERS AND HEALTH OFFICERS

TEOFILO CORPUS, M.D.

Medical Inspector, P. H. S.

The teachers and the health officers both have one point in common in their mission. This paper intends to show this relation. The former gives the children their general education and the latter limits themselves in giving the people an education only with regard to diseases.

It is very important that the teachers acquire a knowledge of the common diseases so as to enable them to detect these diseases among their pupils. It also follows that the teachers will have to receive such instructions. The best time for these instructions will be during the Normal Institute held once a year and the District Institute also held yearly in every district of the province. The district health officer and the presidents of sanitary divisions may be requested to give these lectures.

The teachers, after acquiring this knowledge, shall be able to apply it to themselves, since they are the first ones exposed to health diversities and unfavorable disease influences. They may be stationed in places where conditions are apt to be against their health, their drinking water supply unsafe and their foods deficient. Before they may be able to fulfill their mission well, they, first of all, have to keep themselves strong and healthy.

Remembering always that the teachers are concerned in giving an education within the schoolhouse, the writer believes that they are in duty bound to preach these common diseases to their schoolchildren. It is a good idea, whenever opportunity arises to give them health talks in their classes as frequent as possible, following the school schedule, and after explaining to them such diseases as cholera, tuberculosis, smallpox, influenza, dysentery, typhoid fever, malaria, etc., are caused by minute germs, that they are contagious or infectious and that they are contracted not by the will of God but by carelessness and ignorance, they should always be told this: "When you go home you repeat these things I have told you to your parents, friends, and relatives," and most of them will bring these message well and good.

If the teacher is ignorant of the common diseases, a little thing about health will skip his mind. His ignorance will start a "big fire." This will be a danger to himself, to his school and to the community, and he is bound to fail in his mission.

The little health problem is this: A little boy suffering from chicken-pox is overlooked and allowed to continue to attend school. A few days later, several boys are absent. Then another group were again absent and so on until the attendance of the school was reduced to twenty or ten per cent. Now the teacher wonders why so many children were absent and he finds out that the cause of the trouble was chicken-pox, all children evidently infected by the first child. The same story applies to the rest of the dangerous diseases common to school-children.

In this particular case, this school exhibits its danger signal to the public. It is at this time that the health officers interfere with that school. The closure of the school is not necessary; on the other hand, its continuance is urged, since cases during an epidemic may be traced among the schoolchildren, and then the control becomes easy. Yet the routine work of the school is handicapped. This would not occur "if the fire was extinguished at the start," or when the teacher, as soon as its existence has been detected, has reported it at once to the health authorities.

The teachers desirous of seeing all their pupils in good state of health, are the one to succeed. These teachers will also co-operate with the medical inspection of schools performed regularly by health officers, provincial nurses, Red Cross nurses, and provincial dentists and will see to it that the defectives are properly attended. In this way, he will get the highest per cent of attendance, and the maximum rating of mental and physical development of his pupils. No failure on account of health will be registered. These are, of course, the types of good citizens!

Times has come when health leaders will all look upon the welfare of their children—the future make-up of this country—with great anxiety. Any laxity in the enforcement of health regulations will no longer be tolerated. Reporting of cases of communicable diseases will be made, and the health of the entire school will be closely watched. To carry out this plan successfully, the teachers must have full knowledge of the diseases above mentioned.

REPORT OF THE COMMITTEE ON BERIBERI INVESTIGATION¹

INTRODUCTION

As a result of the conference on beriberi at the last Biennial Congress of the Far Eastern Association of Tropical Medicine convened at Singapore in 1923, and with a view to furthering investigations and studies upon this disease, the Honorable Secretary of Public Instruction, under an administrative order dated November 20, 1923, created the Committee on Beriberi Investigation in the Philippines. The Committee was composed of nine members.

PURPOSE

This Committee was created for the purpose of furthering studies and investigations on beriberi in general, and to carry out the resolutions passed at the Congress in particular. These resolutions are as follows:

1. The Fifth Congress of the Far Eastern Association of Tropical Medicine has considered the proposals of the Philippine Islands delegation for international action in the control of beriberi, and has taken note of the views of the official delegates of governments represented in the Congress.

2. The Association is of the opinion that, consequent upon the divergence of views disclosed in the statements of official delegates, any international convention is at present impracticable.

3. The Association reaffirms its opinion that beriberi is a disorder of nutrition, and that in the Far East the principal factor in its causation is a diet of which overmilled rice forms the staple.

4. The Association recommends that interested governments be invited to promote further research on the following questions in relation to beriberi control:

- (a) The standardization of rice,
- (b) The effects of transport and storage on rice,
- (c) Economic considerations.

5. The Association recommends that each of the governments interested and the International Health Board of the Rockefeller Foundation be invited to nominate a representative on a "beriberi committee" which shall report at the next Congress. The names of such representatives should be notified to the General Secretary-Treasurer.

¹ Dr. L. Lopez-Rizal, Chairman; Dr. Fernando Calderon, Dr. Jose Albert, Dr. Jose Fabella, Dr. F. O. Santos, Major A. P. Hitchens, Mr. A. H. Wells, Dr. I. Concepcion, and Dr. P. Gutierrez, members.

6. The Association considers that, in the meantime, individual governments should take such action for the control of beriberi as may be suited to local conditions in their respective countries, and should devote special attention to devising and applying practical methods of improving the diet of the general population with regard to the too-exclusive use of overmilled rice, and should be requested to make available to the next Congress of the Far Eastern Association of Tropical Medicine systematic observations and statistical data showing the results of these methods.

7. The Association considers that educational methods of control on the basis of the available scientific knowledge should be vigorously applied in all countries.

ORGANIZATION

The Committee on Beriberi, as originally created, was composed of Dr. L. Lopez-Rizal as Chairman, and Dr. F. G. Calderon, Capt. W. D. Fleming, Dr. J. Albert, Mr. A. H. Wells, Dr. J. Fabella, Dr. J. Quintos, Prof. F. O. Santos, and Dr. P. Gutierrez as members. Later, as a result of the resignations of Drs. J. Quintos and Capt. W. D. Fleming, Dr. I. Concepcion and Col. J. F. Siler were appointed. The last member has been recently relieved by Major A. P. Hitchens.

This body has been created without an appropriation set aside to meet its expenses in the studies and investigation to be made. The bureaus under which the members are working have, however, defrayed such expenses as the work done has required. This limitations of the expenses has handicapped the work to some extent—it prevented the Committee from extending its investigations and studies as much as seemed desirable and made it impossible to perform certain personal and detailed inspections and canvasses. In view of this fact, a resolution asking for an appropriation for the necessary expenses has been approved and submitted to the proper authorities; but this request, so far, has not received a favorable action.

For the proper distribution and organization of the work, subcommittees were appointed, and monthly meetings of the whole Committee were held for the discussion of the findings of these bodies and for the coördination of the work of the Committee. A total of 13 meetings have been held besides the preliminary ones held during 1923. The subcommittees and their members are as follows:

SUBCOMMITTEE ON STANDARDIZATION OF RICE

Members.—Captain Fleming, Mr. Wells, and Prof. Santos.

SUBCOMMITTEE ON EFFECTS OF TRANSPORTATION AND STORAGE

Members.—Doctor Calderon, Doctor Fabella, and Doctor Gutierrez.

SUBCOMMITTEE ON CLINICAL INVESTIGATION

Members.—Doctor Albert, Doctor Quintos, and Doctor Gutierrez.

An outline of the functions of these subcommittees, as prepared and approved by the Committee, is as follows:

I. Subcommittee on Standardization of Rice—

The main purpose of this subcommittee will be to investigate the feasibility of fixing one standard or index of vitamine content for rice, which would insure a safe margin from the prophylaxis standpoint in the control of beriberi.

The work of the subcommittee, therefore, would be to study:

(a) The vitamine content of different kinds of rice consumed in the Philippines (imported and native rice).

(b) The same with sample of rice as consumed in other Oriental countries, if possible.

(c) The relation of different kinds of rice to beriberi. Compare the findings with the findings of other Oriental countries and determine the advisability and feasibility of international legislation.

(d) Such other biochemical analysis or experiments as may be necessary to ascertain the effect of transportation and storage on rice (native and imported) from the standpoint of its nutritive value, and also to determine the relative keeping qualities of unmilled and milled rice.

II. Subcommittee on Effects of Storage and Transportation—

This subcommittee shall study the subject from two different points of view:

(a) Economic and commercial aspect, and

(b) Change in nutritive value from the viewpoint of beriberi prophylaxis.

Under (a) the following points should be studied: Cost of transportation of husked and unhusked rice; importation taxes on rice (husked and unhusked); taxes on native rice; cost of storage, the possibility of importing unhusked rice or undermilled rice to be milled or remilled to suit our local conditions if no changes in nutritive value occur, as it is believed that storage and transportation may cause changes in nutritive value of rice, or in its keeping qualities. All biochemical analyses desired will be made by the subcommittee on standardization of rice.

III. Subcommittee on Clinical Investigation—

This subcommittee shall take up the clinical aspects of the investigation.

A study of the cases of beriberi, in public and private institutions; also information may be requested from private practitioners, regarding:

(a) Incidence of dropsic beriberi,

(b) Incidence of dry beriberi,

(c) Which type yields better to change of diet,

(d) Which type yields better to vaccine, and

(e) Which of these two types causes infantile beriberi.

Further study must, also, be made in connection with the etiology of beriberi.

All findings of the subcommittees shall be reported at the regular monthly meetings of the Committee.

This outline has been followed as closely as possible, according to the facilities of the Committee. In addition to the special work outlined above, the investigation of local factors and conditions, bearing on the beriberi problem, has been made.

BERIBERI SITUATION IN THE PHILIPPINES

It is possible to determine only approximately the beriberi situation in the Philippines from the provincial statistical returns. In the majority of the cases, diagnosis is not dependable since, in the provinces and their municipalities, death certificates are usually prepared by municipal secretaries, sanitary inspectors, and other nontechnical employees. The following table gives the mortality figures from beriberi in the City of Manila and in the provinces during the last 15 years (from 1910-1924); but as just noted, the reader must bear in mind the method by which these figures were obtained.

TABLE I.—*Mortality from beriberi in the Philippines*

Year	Manila	Provinces ¹	Total
1910.....	1,441	4,128	5,569
1911.....	1,331	4,367	5,698
1912.....	1,056	4,372	5,428
1913.....	696	3,194	3,890
1914.....	838	4,102	4,940
1915.....	872	4,336	5,208
1916.....	684	5,874	6,558
1917.....	490	7,463	7,953
1918.....	731	11,866	12,597
1919.....	406	11,981	12,387
1920.....	555	12,481	13,036
1921.....	705	15,311	16,016
1922.....	648	16,241	16,889
1923.....	698	17,417	18,115
1924.....	600	18,331	18,931

¹ Including deaths registered in Manila among nonresidents.

To show the distribution of beriberi in the various provinces, the following table of deaths from this disease during the last five years, with the average mortality rate by provinces, has been prepared.

Taking into consideration the fact that the diagnoses were made by nontechnical men during the whole period covered by this table and with the presumption that the ratio of error was approximately the same throughout, the figures show definite tendencies. It appears that beriberi in the provinces is increasing alarmingly, while in the City there is noted a significant decrease. Roughly estimated the beriberi mortality in the City of Manila, within the last five years has been reduced

TABLE II.—Showing the average mortality rate from beriberi to each 1,000 population during the last 5 years (1920-1924) by provinces

Provinces	Year					Total	Average number of deaths	Rate
	1920	1921	1922	1923	1924			
Abra.....	15	14	7	15	14	65	13	.168
Agusan.....	7	11	22	86	52	128	25	.509
Albay.....	273	167	154	167	203	964	192	.707
Antique.....	52	41	127	142	177	539	107	.670
Bataan.....	93	220	240	242	286	1,081	216	3.547
Batanes.....		2	5	4		11	2	.243
Batangas.....	667	947	1,060	1,101	925	4,700	940	2.622
Bohol.....	314	236	238	339	279	1,436	287	.759
Bukidnon.....		20	14	12	16	62	12	.308
Bulacan.....	902	1,363	1,105	1,151	961	5,482	1,096	4.299
Cagayan.....	152	205	260	192	280	1,089	217	1.098
Camarines Norte.....	110	86	87	70	72	425	85	1.557
Camarines Sur.....	221	305	340	420	457	1,743	348	1.559
Capiz.....	187	225	323	339	293	1,367	273	.891
Catanduanes.....	72	128	140	85	140	565	113	1.606
Cavite.....	325	614	1,046	1,165	1,017	4,167	833	5.181
Cebu.....	1,197	1,276	684	1,014	1,243	5,414	1,082	1.202
Cotabato.....	3	14	17	15	17	66	13	.071
Davao.....	52	94	135	181	112	524	104	.883
Ilocos Norte.....	143	172	193	165	171	844	168	.736
Ilocos Sur.....	79	113	183	134	181	690	138	.615
Iloilo.....	181	204	249	396	489	1,519	303	.578
Isabela.....	73	116	122	104	105	520	104	.859
Laguna.....	452	641	783	681	612	3,169	633	3.073
Larao.....	9	8	9	9	15	50	10	.097
La Union.....	173	161	199	152	143	828	165	.996
Leyte.....	748	990	1,165	1,258	1,310	5,471	1,094	1.698
Marinduque.....	100	129	147	138	197	711	142	2.447
Masbate.....	21	14	26	24	75	160	32	.439
Mindoro.....	168	234	190	231	320	1,143	228	2.883
Misamis.....	272	355	574	621	623	2,445	489	2.293
Mountain Province.....				43	33	76	38	.131
Nueva Ecija.....	812	986	954	1,250	1,306	5,364	1,076	4.844
Nueva Vizcaya.....	24	35	16	31	42	148	29	.463
Occidental Negros.....	245	455	431	448	662	2,241	448	1.078
Oriental Negros.....	507	508	556	374	456	2,401	480	1.665
Palawan.....	14	9		8	12	43	10	.130
Pampanga.....	875	967	743	752	568	3,905	781	2.945
Pangasinan.....	370	519	585	813	921	3,208	641	1.077
Rizal.....	651	864	886	958	851	4,210	842	3.398
Romblon.....	45	45	52	74	50	266	53	.788
Samar.....	294	393	598	572	565	2,422	484	1.196
Sorsogon.....	245	115	211	167	329	1,067	213	1.113
Sulu.....	14	17	12	9	6	58	11	.057
Surigao.....	70	82	164	113	87	516	103	.797
Tarlac.....	459	214	355	426	576	2,130	426	2.366
Tayabas.....	499	380	481	476	611	2,447	489	2.173
Zambales.....	121	157	192	154	251	875	175	2.009
Zamboanga.....	101	86	139	191	205	722	144	.910
Total.....	12,437	15,037	16,219	17,412	18,316	79,421	15,884	1.453

to 40 per cent of its prevalence during the five-year period from 1910 to 1914; in the provinces, there has been an increase to the extent that the mortality rate during the period from 1910-1914 was only about 27 per cent of that of the last five years, 1920-1924. Judging by the statistical returns from Manila—and these are the most dependable as regards the accuracy of diagnosis—about 91 per cent of the deaths from beriberi occur in infants. Bearing these figures in mind as well as the fact that: (a) the tiki-tiki extract, the main cure for infant beriberi, is perhaps obtainable and used only in the City; and (b) that the rice-mill machinery and its use had become general

throughout the provinces in 1917 and 1918, we may partly explain the increase of beriberi in the provinces coincident with its reduction in the City.

The beriberi situation in the Philippines, therefore, instead of showing a tendency to improve, has been since 1924 growing worse. The Committee cannot offer a definite explanation for this phenomenon, but an enumeration of several local factors may prove suggestive.

RICE

The Far Eastern Association of Tropical Medicine, at its last Congress, reaffirmed its opinion that in the Far East the principal causative factor in beriberi is a diet of which over-milled rice forms the staple. Taking this opinion of the Association into consideration, the Committee has made the following investigations with regard to rice.

IMPORTATION AND PRODUCTION OF RICE IN THE PHILIPPINES

Table III shows the amount of rice imported into the Islands and the total native production from 1910 to 1923. This table has been prepared with data gathered from the Bureau of Agriculture and the Bureau of Customs, and from information obtained from the Bureau of Commerce and Industry. The native production is given in kilograms of unhusked rice, but its equivalent in milled rice has been estimated and is given in another column for the purpose of comparison. The proportion of imported rice to the total amount of rice consumed in the Islands is also given in per cent.

TABLE III.—*Importation and production of rice in the Philippines*

Year	Rice imported in kilograms	Per- centage ¹	Rice production (unhusked) in kilograms	Equivalent in kilograms of total production after milling
1910.....	197,826,220	26.87	810,940,698	537,046,819
1911.....	188,674,708	23.91	882,794,128	584,631,873
1912.....	301,067,276	47.63	499,766,124	330,989,488
1913.....	86,989,555	11.09	1,053,450,894	697,649,598
1914.....	96,921,497	18.02	977,683,002	647,472,186
1915.....	218,441,545	30.09	766,195,118	507,413,996
1916.....	189,835,577	24.21	897,791,152	594,481,226
1917.....	146,985,715	15.48	1,215,898,831	802,582,007
1918.....	183,781,631	15.27	1,539,186,978	1,019,329,124
1919.....	50,818,758	5.02	1,452,610,907	961,993,978
1920.....	77,334,352	6.86	1,584,590,029	1,049,397,370
1921.....	58,517,717	4.66	1,808,464,844	1,197,658,507
1922.....	42,294,868	3.31	1,867,783,690	1,236,942,841
1923.....	66,449,089	5.36	1,909,265,800	1,272,843,866

¹ Per cent to total amount of rice produced and imported.

Imported rice, especially that from Saigon, on account of being over-milled, was formerly accused of being the main

factor in the prevalence of beriberi in the Islands. At the present time, however, the situation is changed since the imported rice constitutes only about 5 per cent of the total amount consumed during the last five years. The average percentage imported during previous years, as shown by Table III, was 23.06. It is estimated that only about 500,000 people in the Islands are consuming imported rice.

KINDS OF RICE AND RICE MILLS

Imported rice comes from Siam, the French East Indies, Spain, Japan, and the British East Indies. The overmilled rice coming from the French East Indies and Siam constitutes about 98 per cent of the total importation. In the Philippines, there are hundreds of different varieties raised. Several years ago, a great proportion of rice produced in the Islands was commonly consumed in the form of undermilled rice, the practice being to pound it by hand. Later, however, and because of the changed demand for laborers, the introduction of modern rice-mill machinery and the other factors, the hand-pounding method has been abandoned, except in certain isolated and distantly located municipalities and *barrios*. Data available at the Bureau of Commerce and Industry show that there are 452 rice mills in the Philippine Islands, distributed in the provinces as follows:

Albay	15
Ambos Camarines	24
Bataan	4
Batangas	71
Bohol	7
Bulacan	44
Capiz	5
Cavite	25
Iloilo	9
Laguna	78
Mindoro	3
Nueva Ecija	18
Occidental Negros	6
Pampanga	42
Pangasinan	8
Rizal	18
Sorsogon	6
Tarlac	16
Tayabas	37
Zambales	3
Other provinces	13

Comparing this table with the rates of mortality from beriberi by provinces, it will be seen that no relationship exists between

these two factors, and the reason is obvious; the rise is milled in one province and immediately transported to other provinces.

Chemical examination of rice.—Examination of 23 samples of native rice (Philippine Rice—A. H. Wells, F. Agcaoili, and R. T. Feliciano), as to their food value, showed the following averages:

Weight of 100 kernels	Moisture	Ether extract	Protein (N \times 6.25)	Crude fiber	Ash	Carbohydrates	P ₂ O ₅	Food value per 100 grams. calories
1.97	Per cent 12.26	Per cent 2.03	Per cent 7.93	Per cent 1.18	Per cent 1.45	Per cent 74.98	Per cent 0.752	860.63

These results show that, in general, our native rice although polished compares favorably with that of the United States and India as given by McCarrison and Norris. The following table gives the comparative value of the rice produced in the Philippines, in the United States, and India:

Classification	Philippines	United States	Kinds of rice in India		
			Paddy	Parboiled rice, polished	Raw, polished
Protein.....	7.93	8.02	6.59	7.17	6.60
Ether extractives.....	2.03	1.95	2.36	0.53	0.60
Carbohydrates.....	75.89	76.05	73.64	90.75	91.35
Crude fiber.....	1.18	0.93	9.77	0.26	0.17
Ash.....	1.45	1.15	7.64	1.07	0.81
P ₂ O ₅	0.752	0.4	0.59	0.40	0.30

STANDARDIZATION OF RICE

The possibility of standardizing milled rice by its P₂O₅ content was suggested at the Fourth Congress of the Far Eastern Association of Tropical Medicine. The suggestion was to the effect that the consumption of rice having a P₂O₅ content of 0.45 per cent would probably not lead to beriberi. The P₂O₅ content varies not only in different varieties of rice, but is influenced also by other factors such as the kind of soil, the fertilizers used, the climatic conditions, Filipino rice, in general, comes well within the suggested standard, since the average given for the 23 specimens examined was 0.752. Later examinations of native rice gave lower percentages of P₂O₅, as follows:

Rice samples	P ₂ O ₅ content	Rice samples	P ₂ O ₅ content
	Per cent		Per cent
Polished rice from Laguna.....	0.31	Polished rice, Saigon.....	0.26
Polished rice from Ilocos.....	0.32	Pinawa.....	0.72
Polished rice, 2nd class.....	0.42	Pinawa, other samples.....	0.72

In view of the foregoing results, it was thought that the proposed standard could be used practically in the Philippines. Accordingly, the Philippine delegation to the Fifth Congress of the Far Eastern Association of Tropical Medicine held at Malaya made a definite proposal to the effect that the standardization of milled rice on the basis of P_2O_5 content be adopted by the Congress. In view of the differences of opinions of the delegates from the different governments, the proposal was not accepted. It was then suggested that further investigation be made, since rice with a high P_2O_5 content may be overmilled and be deficient in vitamins, while rice with P_2O_5 content below the standard may be undermilled and contain sufficient vitamin. Apparently, the same has been the finding of McGarrison and Norris in India, at least in parboiled milled and polished rice.

On the other hand, experience in the Philippines seems to indicate that raw milled rice with a high initial P_2O_5 content may come below the standard after washing or after storage for a long time, as shown in the following table:

Comparative P_2O_5 constituents of washed and unwashed rice

Sample identification numbers	Before washing			After washing			P ₂ O ₅ content
	Moisture	Calculated from sample as received	(a)	Moisture	Washed samples	(b)	Percentage difference between (a) and (b)
			Calculated from dry basis				
			P ₂ O ₅ %				
		P ₂ O ₅ %		P ₂ O ₅ %	P ₂ O ₅ %		
	<i>Per cent</i>			<i>Per cent</i>			
115	11.15	0.369	0.415	9.41	0.160	0.177	.238
116	11.00	0.402	0.451	8.73	0.187	0.204	.247
117	11.08	0.371	0.417	9.73	0.181	0.201	.216
118	11.56	0.426	0.482	8.23	0.191	0.208	.274
119	10.97	0.358	0.402	10.01	0.172	0.191	.211
120	12.07	0.402	0.457	8.33	0.171	0.187	.270
121	11.59	0.420	0.475	9.24	0.174	0.192	.282
122	11.46	0.396	0.447	9.92	0.157	0.174	.273
123	11.91	0.414	0.470	8.07	0.172	0.187	.283
124	11.54	0.408	0.461	9.81	0.230	0.255	.206

It is known that some rice dealers in the Philippines mix rice polishings (bran) with the samples submitted for examination. This act increases the P_2O_5 content if the rice is examined unwashed. The method adopted in the determination of P_2O_5 content is that of the Association of Official Agricultural Chemists.

Degree of unpolishing.—Because of the lack of proper facilities, the Committee on Beriberi was not able to study directly the vitamin content of the different kinds of rice consumed in the Philippines. An indirect method was therefore devised, that

of determining the degree of unpolishing, as this method has been presumed to determine the degree of unpolishing as an indication of the vitamin content of the rice.

By the degree of unpolishing is meant that amount of surface of the rice grain covered by the thin coating remaining intact after the rice has been subjected to mill polishing. It is the ratio of the unpolished surface to the whole surface, expressible in per cent, and determinable with a fair degree of accuracy by the use of a dissecting microscope. With the naked eye, it is difficult to make even a rough estimate of the polishing; red rice, though much more highly polished than white rice, will always appear as less polished. With a dissecting microscope, the polishing remaining attached to the grain can easily be estimated in proportion to the polished surface. The method itself is very simple as it consists in determining what proportion of the whole surface of the grain is covered by polishings. Sampling is the most difficult part because the examination is confined to 20 grains and these should be representative of the whole lot. The 20 grains are selected in the following manner: the sample as received is quartered several times until the last quarter is reduced to a few grams. Then, of these, 20 unbroken grains are picked up carefully and examined. The results of these examinations are shown in Appendix A herewith.

The results do not show an exact parallelism between the percentage or degree of unpolishing and the percentage of the P_2O_5 contents, although a slight relationship is indicated, as shown in the following table:

TABLE IV.—*The relation between P_2O_5 content and degree of unpolishings of sample of rice*

P_2O_5 content	Degree of unpolishings									
	0.5	6.10	11.15	16.20	21.25	26.30	31.35	36.40	41.45	46.50
0.1.....	1									
0.2.....		1								
0.3.....			1							
0.4.....			3			1	2			
0.5.....			7	6	8	4	3	1	1	
0.6.....			1		1	1	1	2	1	
0.7.....										1
0.8.....										

If the degree of unpolishing is taken as a fair indicator of the vitamin content, it would not be very safe, therefore, to take the P_2O_5 content as the index of the protective value of any kind of rice.

In view of the foregoing findings, it is therefore necessary to pursue the investigations before a standard for rice can be

adopted. In the Philippines, for a good proportion of rice, a 0.5 per cent P_2O_5 content may probably be regarded as a fair standard for safe rice.

TRANSPORTATION AND STORAGE

The transportation and storage of rice are important from the standpoint of the prevalence and causation of beriberi. It was suggested at the last Congress of the Far Eastern Association of Tropical Medicine that rice be transported and imported as paddy and milled at the place of consumption. This would raise an economic problem which should not be lost sight of. In the Philippines, the transportation of imported rice has little to do with the incidence of beriberi, since only a small amount of rice is imported at the present time. Notwithstanding this fact, this point has been taken up and it has been found that the importation of rice as paddy into the Philippines would be impracticable. The duty on 100 kilos gross of unhusked rice is \$0.90 while that on 100 kilos of husked rice is \$1.50. Since only about 50 kilos of husked rice could be obtained from every 100 kilos of unhusked rice, the importers would have to pay \$1.80 duty on 100 kilos of rice plus the expense of milling in local mills. Furthermore, because of the bulk of paddy rice, the importers and local dealers would have to pay more for storage and transportation.

Certain aspects of the problem of rice storage have been studied. In the Philippines, paddy rice or unhusked rice is usually stored either in bunches without detaching the grain from the stalks or in grains already thrashed by hand or by machine. In general, paddy rice is stored not longer than nine months; and according to information given by the Bureau of Agriculture and the Bureau of Commerce and Industry, nearly all of the total amount of rice produced in the Philippines is consumed within the year. The Philippines does not export rice. Our investigation confirms the information given us by the Bureau of Agriculture and also shows that unless the local Chinese dealers speculate on rice, the crop of the year is consumed within that year in its totality. The duration of storage depends on the local demand for milled rice. Ordinarily, paddy rice after being stored for from six to nine months, is milled and immediately delivered to the dealers. In the hands of milled rice dealers, the stock does not remain stored longer than three months, in the majority of the cases.

EFFECT OF STORAGE

As a matter of fact, paddy rice under normal circumstances, when stored in properly ventilated and wet-proof storehouses, does not usually deteriorate after months or even after years. There are several kinds of Filipino rice, however (*carinṅan*), for instance, the kind that has a dark, heavy, mealy coat lying between the husk and the kernel undergoes deterioration within a short time. This kind is raised in very insignificant quantities. On the contrary, milled rice deteriorates rapidly if stored in a damp and poorly ventilated place. The degree of deterioration depends, however, not only on the kind of rice, but also on the degree of polishing and whitening to which it has been submitted in the milling process.

The Committee has not made any comparative investigation concerning the deterioration of the different kinds of Filipino rice. With regard to storage, the Committee limited itself to determining how fast deterioration takes place and what the factors that determine the rate of deterioration are.

For these inquiries, the Committee availed itself of the experience of the United States Army in the Philippines and also of some experiments performed in the course of this investigation.

The experience in the Army is clearly explained in the paragraphs quoted herein from a Memorandum of Captain Robert T. Willkie of the Quartermaster Corps, United States Army (Philippine Department) in reply to an inquiry made by this Committee.

(a) Some native and some Saigon palay in the main warehouse, which is a frame building with a full concrete floor and high ceilings. It is, in fact, a very good storehouse compared with most such buildings in the Philippine Islands. The palay is in single sacks and stored in large piles on dunnage. This lot is all in excellent condition and free from deterioration in any respect. In fact, outside of being very dry, it is as good as, or better than, on the day it arrived.

(b) A considerable quantity of Saigon palay stored in the same building with a rice mill. This rice mill is an excellent one and was operated for the production of medium-milled rice for some length of time. It has not been operated since last June for reasons entirely apart from its own efficiency. The palay was stored in this building both before and after its use as a mill. The building is not a very good storehouse, but the palay is in excellent condition. There is a very slight infestation with insects injurious to stored grains, but of little consequence.

(c) A large lot of Saigon palay in the old Depot building on the Pasig River. This warehouse is old, and leaks. The remainder of the same room is used for salvage warehouse and the same building contains large quantities of bran. The building is badly infested with rats, mice, roaches,

ants, and insects injurious to stored grains including the cadelle, the rice-weevil, the grain-weevil, the brown bug, the confused flour beetle, the Indian meal moth, the rice moth, and probably others that have not been fully identified. The palay is in 155-pound sacks and in a pile much larger than prudence would suggest. Yet this palay, outside of being slightly infested with insects and musty in a few spots where rain has leaked through the roof, is in good shape and can readily be milled into food for man or feed for animals.

The findings of the Committee as a result of the examinations performed confirm the experience of the Army. About 86 specimens received from the various provinces have been collected and examined by Mr. Wells and Mr. Feliciano of the Bureau of Science to verify the deterioration undergone by rice after storage. In view of the difficulties of gathering information from local dealers, it has been practically impossible to record the ages of the rice samples submitted for examination. It must be said, however, that in general, all samples examined have probably been stored for not less than one month, the duration of storage after milling ranging from one to three months. The deterioration found consisted in the loss of the rice polishing, the destruction of the germs and the kernel which necessarily results in the diminution of the nutritive value of the rice and the lessening of the P_2O_5 content. The most important factors contributing to the deterioration of stored rice may be summed up as follows:

(a) *The polishing itself*.—The rice polishing which coats each grain is very hygroscopic and swells as it absorbs moisture. The moisture being retained, it facilitates mold growth, which destroys the polishing and the grain.

(b) *Mites* are small unclassified insects which subsist on the mold; hence their presence in rice indicates mold growth. They remove the rice polishing as they eat up the mold growing on the rice grain.

(c) The rice polishing possesses an odor somewhat aldehydic in nature, which becomes stronger when moist. This odor probably attracts the rice beetle and the rice weevil, and possibly explains why these insects prefer unpolished rice when packages of the two kinds are kept side by side.

(d) *The rice weevil and rice beetle* (*Tribolium ferrugineum* Fabr. and *Calandra Oryza* Linn). These are two other insects which destroy stored rice. They live and subsist on rice starch; the weevil boring a hole through the rice grain and leaving the thin coating intact, and the rice beetle reducing the grain to powder. Moreover, they lay their eggs in the rice itself, and

cause further deterioration. Unhulled or unmilled rice can resist the attacks of these two insects, and hence keeps better.

Damp and unclean storerooms, barns and rice mills favor the growth and development of mold, rice weevils, and beetles.

Undermilled rice deteriorates, therefore, earlier and more rapidly than overmilled rice. This is a fact that has been confirmed by the Committee and by the experience of the United States Army.

Three experiments have been made by Professor Santos, a member of the Committee, to determine the length of time required for marked deterioration to take place. These tests were made on three varieties called *Hambas* or *Binambang na puti*, *Iroy*, and *Bulilising*. When analyzed, the proportion of some of the constituents was found to be as follows:

Constituents	Hambas		Bulilising		Iroy	
	Polished	Unpolished	Polished	Unpolished	Polished	Unpolished
Moisture	13.89	13.39	14.69	13.37	14.13	14.24
Ash .....	.56	1.64	1.20	2.17	.79	1.61
Protein	10.79	14.32	12.38	12.66	12.09	12.84
P ₂ O ₅ .....	.29	.93	.65	.76	.55	.77

Results.—1. *Hambas* was harvested on January 31, 1925, and milled on February 10, 1925. By June 9, 1925, the unpolished sample was almost one-third powder, and if placed on the market, would not attract a buyer because of its bad appearance. The polished sample is still good in appearance (August 20, 1925) and if placed on the market will surely be sold. The following animals pests and fungi were found in the two samples: (1) *Calandra oryzae*, Linn; (2) *Rhizopertha dominica*, Fabr.; (3) *Unidentified*, Fam. Psosidae, Order Corrodentia; (4) *Rhizopus* sp.; and (5) *Penicilium* sp.

2. *Iroy* was harvested on January 12, 1925 and milled on July 4, 1925. By August 18, 1925, the unpolished sample was already powdery in form and unattractive in appearance. The polished sample at the present time looks better.

3. *Bulilising* was harvested on January 14, 1925 and milled on July 5, 1925. By August 18, 1925, the unpolished sample was powdery and unattractive in appearance. The polished sample looked better.

No determination of vitamin B was made.

All samples were prepared and stored under similar conditions. An analysis of the results of examinations shown in

Table IV also shows the deterioration of rice by the action of beetles and weevils. Out of the 86 samples examined, 42 showed evidences of deterioration from either mold or grain beetles and weevils and a corresponding decrease in the P_2O_5 content. Rice classified as fourth, fifth, and sixth classes, which are undermilled, showed only about 0.5 per cent phosphorus content, which is below the usual finding in rice of these varieties (0.75 per cent).

Deterioration of overmilled rice begins, therefore, on or about the second month of storage and earlier in the case of undermilled rice. The rapidity of the deterioration depends on the conditions under which the rice is stored.

Regarding the extent to which deterioration of the rice influences its nutritive value, i. e., destroys the grain and diminishes the vitamin content, no direct experiments have been performed by the Committee for lack of facilities and time. The decreased P_2O_5 content found in the specimens examined (Table IV), which have been in storage for one or more months and the physical condition of the grains after the experiments, may however give an idea of the extent of deterioration.

POSSIBILITY OF PROTECTING UNDERMILLED RICE FROM DETERIORATION

Until a method for preventing or delaying the deterioration of undermilled rice is found, it will be impossible to compel the rice millers to supply this variety. The Committee has not, up to the present time, done much in this direction. The most important influences leading to rapid deterioration, as just noted, are mold, the rice weevils, and beetles. Since these grow when the conditions of storage are favorable to them, the first step should be to devise means to eliminate such conditions from the storerooms and barns. The weevils, beetles, and mold cannot originate spontaneously in milled rice; as they have their origin, the Committee believes, in the rice mills and storerooms themselves, and are harbored in dirty and previously used receptacles, rice bags, bamboo baskets smeared with cow dung. It cannot now be predicted to what extent the correction of the foregoing conditions will remedy the situation. The Committee has forwarded to the Director of Health a communication suggesting the advisability of having rice mills supervised and regulations established for their operation. It is understood that the subject is under consideration by the Section of Industrial Hygiene of the Philippine Health Service. In the opinion of the Com-

mittee, the regulation should include not only the preservation of cleanliness and the provisions for proper ventilation in the rice mills and storerooms, but also the sterilization of old rice bags and other receptacles used for packing purposes.

RELATION OF RICE PRODUCTION TO BERIBERI IN THE PHILIPPINES

The Committee has found no relation between rice production and the prevalence of beriberi. Table V shows that provinces with big rice production do not necessarily have a high or low beriberi prevalence and vice versa.

TABLE V.—*Showing the rice production in cavares¹ and mortality rate to each 1,000 population by provinces*

Province	Average rice production	Mortality rate from beriberi for 1,000 population
<i>Cavares</i>		
Abra.....	231,835	.168
Agusan.....	914,000	.509
Albay.....	1,148,395	.707
Antique.....	506,445	.670
Bataan.....	415,680	3.547
Batanes.....	1,260	.243
Batangas.....	781,510	2.622
Bohol.....	671,130	.759
Bukidnon.....	15,365	.308
Bulacan.....	1,728,625	4.299
Cagayan.....	598,140	1.098
Camarines Norte.....	135,860	1.557
Capiz.....	1,851,760	.891
Catanduanes.....	No data	1.608
Cavite.....	751,230	5.131
Cebu.....	162,145	1.202
Cotabato.....	179,835	.071
Davao.....	96,855	.883
Ilocos Norte.....	1,093,710	.736
Ilocos Sur.....	877,305	.615
Iloilo.....	2,380,855	.678
Isabela.....	68,515	.859
Laguna.....	711,565	3.073
Lanao.....	343,190	.097
Camarines Sur.....	1,048,850	1.559
Zamboanga.....	189,135	.910
La Union.....	1,405,790	.996
Leyte.....	784,100	1.698
Marinduque.....	270,175	2.447
Masbate.....	49,935	.439
Mindoro.....	182,005	2.883
Misamis.....	288,395	2.293
Mountain Province.....	754,260	.131
Nueva Ecija.....	7,759,575	4.344
Nueva Vizcaya.....	255,930	.463
Occidental Negros.....	732,625	1.076
Oriental Negros.....	138,135	1.665
Palawan.....	63,865	.130
Pampanga.....	1,791,885	2.945
Pangasinan.....	6,923,940	1.077
Rizal.....	553,835	3.998
Romblon.....	140,190	.788
Samar.....	321,285	1.196
Sorsogon.....	259,555	1.113
Sulu.....	20,915	.057
Surigao.....	386,985	.797
Tarlac.....	2,686,890	2.966
Tayabas.....	567,515	2.173
Zambales.....	594,400	2.009
Total.....	42,457,685	1.453

¹ One cavan is equivalent to 75 liters.

RELATION OF KIND OF RICE USED TO BERIBERI

A survey, made by the district health officers of the Philippine Health Service in the provinces among beriberi patients at the suggestion of this Committee, showed that out of the families of 623 cases of beriberi investigated, all consuming rice as the principal staple of diet, 148 families or 23.75 per cent use imported polished rice, 420 or 67.41 per cent use native polished rice, 40 or 6.42 per cent use native undermilled rice, and the rest or 2.42 per cent used rice of undetermined variety. In other words, if this proportion holds good for the whole of the Philippine Islands, a high percentage of cases occurred in families using imported overmilled rice. If to these are added those using native polished rice, we have a total of 91.16 per cent families consuming overmilled against 6.42 per cent using unpolished rice. If we take into consideration the fact that a small proportion (5%) of the rice consumed is imported, the influence of imported rice as a factor in the causation of beriberi becomes even more apparent. In terms of ratio to population, the figures are:

Imported rice	23.75		
	5	equals	4.75
Native rice	73.83		
	95	equals	0.78

That is, imported rice causes nearly six times as much beriberi as does native rice. Since, in the causation of beriberi, other factors may intervene and when we take into consideration the fact that the data regarding the kind of rice used were obtained when the beriberi patient was examined and when we disregard the length of time he had been using that particular kind of rice, the foregoing figures must be used with caution. The finding, however, gives a fair idea of the relationship existing between the kind of rice consumed and the prevalence of beriberi.

MOST COMMON FOODS CONSUMED BY FILIPINO FAMILIES HAVING BERIBERI
PATIENTS AMONG THEIR MEMBERS

A study of the ordinary diet of the population most affected by beriberi may add information of value to the solution of the beriberi problem. In the investigation of about 600 families with a history of beriberi among their members, it was found out that the number of staples of diet, besides rice, which were most commonly consumed may be reduced to seven varieties. The following table shows the varieties of food eaten and the

number and percentage of families using them not less than three times a week.

In order to make a fair interpretation of the figures shown in this table, the relative nutritive value and vitamin B content are also given, according to the results obtained by several investigators who have examined Filipino foods.

TABLE VI.—*Showing the number of families with beriberic members, and the most common foods consumed by them*

Kind of food	Number of families consuming	Percentage of families consuming	Vitamin B content
Fresh fish.....	554	92.35	+
Dried fish.....	490	81.68	+
Bananas.....	467	77.86	+
Bagoong.....	383	63.86	+
Tomatoes.....	360	60.01	++
Camotes.....	298	49.68	++
Corn.....	282	47.81	+++
Sitao.....	268	44.68	++
Mongo.....	250	41.67	++
Papaya.....	200	33.34	+
Eggs.....	161	26.84	++
Potatoes.....	160	26.67	++
Balatong (soy bean).....	138	23.00	+++
Paayap.....	123	20.50	++
Pork meat.....	102	17.00	?
Cow meat.....	68	11.34	+
"Togue" (mongo sprout).....	24	4.00	+++

Judged by the foregoing information, the common diet of families with beriberi cases among their members is not at all deprived of the factor vitamin B. On the contrary, the varieties of food more commonly consumed appear to be relatively rich in this substance. In spite of this fact, the rate of beriberi incidence is high. Was there an insufficient amount of each variety of food ingested and consequently an insufficient vitamin for the requirements of the metabolism? Or are there other factors that should be accounted for in the causation of beriberi among the members of these families? Further studies and investigations should be made to answer these questions. At any rate, the foregoing findings, incomplete as they are, seem to show that either the ingestion of an insufficient amount of such vitamin-containing varieties of food do not prevent the development of beriberi, or in the causation of beriberi, other factors besides the lack of vitamin in food should be sought and considered. It must be admitted that the individual food habits of the members of these families are not recorded. It may be that those who came down with the disease ate sparingly of the vitamin-containing food, even when such articles of diet were available.

CLINICAL FINDINGS

Little information has been obtained from the clinical studies; however, the findings will be noted here since they may add some information to the investigations made.

For this work, the Committee prepared a case-history blank form with the necessary instructions for making the entries. The survey was made by physicians of the Office of the Public Welfare Commissioner and the medical officers of the Philippine Health Service. More than 1,000 case-histories were returned, but only 712 were useful. The analysis of these case-histories shows that 89.18 per cent occurred among the "poor" class of the population; that the predominating type of beriberi in adults is the "dry type" constituting the 48.8 per cent of the cases followed by the "mixed type" with 30.9 per cent, and then the "dropsic type" with 20.3 per cent.

MISCELLANEOUS

NOVEMBER, 1925

AGUSAN

Assistant sanitary inspector Nemesio Pajarillo was ordered to Buenavista relieving assistant sanitary inspector Vicente Plaza resigned.

Dr. V. F. Dimaguila, resident physician of the Butuan Public Hospital, has been designated to take charge of the office of the district health officer while the latter is on an inspection and yaws campaign, in company with assistant sanitary inspector Juan Peralta. Assistant sanitary inspector Maximo Gacula took charge of the laboratory of the hospital during the absence of assistant sanitary inspector Peralta.

ALBAY

The hookworm campaign was started in Jovellar on November 1, 1925, and continued during the month; 547 persons have been examined. Of these 501 or 92 per cent had parasites of one kind or another; 332 or 66 per cent had hookworm; 287 or 57 per cent had *Ascaris*; and 105 or 21 per cent had trichuris.

BATAAN

Anti-cholera vaccination has been conducted in the municipalities of Dinalupihan, Hermosa, Samal, Orani, Abucay, Balaña, Pilar, Orion, and Limay.

BULACAN

The Director and Party inspected the District on the 14th. The persistence of cholera was partly due to the fact that no house could be secured for Hagonoy Emergency Hospital.

On the 30th the Director visited again with Dr. Victor G. Heiser, ex-Director of Health and Party to inspect the health activities of the district and look over the cholera situation.

CEBU

Anti-cholera and anti-typhoid vaccination had been continued in the whole district and a total of 9,860 injections were given during the month.

Smallpox vaccination was continued during the month with 3,428 positives and 2,038 negatives.

COTABATO

The antivariola vaccination remains an unsolved problem; the same difficulties were encountered by the sanitary personnel, including Moham-medan sanitary inspectors in their respective localities, despite the latter's influence in the community. Few vaccinations were performed among Christian population of the province.

ILOCOS NORTE

The presidents of sanitary divisions reported good health condition prevailing in their respective districts and a lowering of the general mortality. The most important activities at present, are: anti-cholera vaccination, strict supervision of public markets, food vendors, bakeries, and restaurants.

MISAMIS

Extensive vaccinations against cholera and typhoid were performed in several municipalities, especially in those having direct communication with Cebu and Manila.

NUEVA VIZCAYA

There were 2,699 dwelling houses inspected during the month; 504 indigent persons treated by the sanitary inspectors; 409 written sanitary orders issued, 369 of which have been complied with, and 40 still pending; 100 public lectures were given with a total attendance of 2,317 persons; 40 new Antipolo closets established; 1,140 persons vaccinated, 1,103 inspections made, 548 positives, and 555 negatives; 153 persons were given double injections of mixed typhoid vaccine.

PAMPANGA

A cholera vaccinated zone was established bounded on the east by the Rio Grande and on the south by the provincial boundary line comprising all the barrios of Masantol and southern barrios of Macabebe, the thickness being 28 kilometers and the object was to check cholera from Bulacan and Nueva Ecija. This zone was effective till about the end of November, when cases appeared in Masantol, Apalit, and Macabebe. The zone was extended to Guagua and Sexmoan.

ZAMBOANGA

Antivariolic vaccination.—One thousand three hundred ninety-eight vaccinations were performed during October.

Anti-cholera and anti-typhoid vaccinations were continued during the month. Because of the presence of a number of isolated cases of typhoid fever in some of the barrios of the city, a general inoculation of the inhabitants of the infected barrios was performed. Passengers coming from Manila and other ports, especially from the former were vaccinated against cholera and typhoid. The total number of vaccinations reported during the month was 1,407.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of November, 1925]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1925¹ BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	285,881
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All Others	2,186
Total	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Meisic	124,252
No. 2, Sampaloc	109,340
No. 3, Paco	78,546
Total	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo	78,665
No. 2, San Nicolas	28,416
No. 3, Binondo	17,171
No. 4, Santa Cruz	50,892
No. 5, Quiapo	15,454
No. 6, San Miguel	4,820
No. 7, Sampaloc	88,674
No. 8, Port Area	4,692
No. 9, Intramuros	14,249
No. 10, Ermita	15,723
No. 11, Malate	16,047
No. 12, Paco	15,623
No. 13, Pandacan	5,709
No. 14, Santa Ana	6,503
Total	312,138

¹ Estimated on the basis of last figures published by the Census Office.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, NOVEMBER, 1925**

Date	Pressure mean ¹	Temperature						Underground	
		In shade :					0.50 m.		
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	8 a. m. mean	2 p. m. mean	
		°C.	°C.		°C.		°C.	°C.	
1-10.....	mm. 761.64	25.3	31.8	2, 8	19.2	7	28.6	28.9	
11-20.....	60.81	25.4	32.1	19	20.8	16	28.3	28.6	
21-30.....	60.12	25.3	32.8	24	19.8	21	28.2	28.3	

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	80.4	94.0	9	73.0	5
11-20.....	83.2	86.4	18	77.7	19
20-30.....	81.8	89.8	23	77.4	29

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Kms.	Kms.		mm.	mm.	
1-10.....	NE quad	1,189.5	178.0	1	27.6	4.0	1
11-20.....	NE	987.0	126.0	19	22.4	3.2	19
20-30.....	NE	961.0	129.0	21	25.4	3.4	21, 29

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	50 10	9 20	2	15.3	4
11-20.....	57 15	8 05	13	21.4	8
20-30.....	38 45	6 45	24	34.6	3

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, — 1.72 mm.

² These values are taken from instruments mounted in the observatory park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE
CITY OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rate per 1,000
Americans.....	11	10	21	81.58
Filipinos.....	684	612	1,296	55.19
Spaniards.....	4	1	5	31.14
Other Europeans.....	5	7	12	129.75
Chinese.....	32	22	54	36.82
All Others.....	1	3	4	22.28
Total and average.....	737	655	1,392	54.29

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MEISIC:							
1. Tondo.....	220	181	401	10	12	22	423
2. San Nicolas.....	48	46	94	5	4	9	103
3. Binondo.....	32	18	50	2	1	3	53
Total.....	300	245	545	17	17	34	579
No. II, SAMPALOC:							
4. Santa Cruz.....	83	77	160	2	4	6	166
5. Quiapo.....	22	21	43		2	2	45
6. San Miguel.....	14	14	28		1	1	29
7. Sampaloc.....	109	91	200	7	2	9	209
Total.....	228	203	431	9	9	18	449
No. III, PACO:							
8. Port Area.....							
9. Intramuros.....	31	33	64	2	1	3	67
10. Ermita.....	25	28	53	2	2	4	57
11. Malate.....	51	55	106	2	2	4	110
12. Paco.....	40	38	78	2		2	80
13. Pandacan.....	17	9	26				26
14. Santa Ana.....	11	13	24				24
Total.....	175	176	351	8	5	13	364
Grand total.....	703	624	1,327	34	31	65	1,392

Attended by physician, living, 367; stillbirths.....	17
Attended by midwife, living, 87; stillbirths.....	2
Attended by family, living, 988; stillbirths.....	13

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rate per 1,000
Americans.....	3	2	5	19.42
Filipinos.....	321	281	602	25.64
Spaniards.....	5	1	6	37.36
Other Europeans.....				
Chinese.....	14		14	9.55
All Others.....	2		2	11.14
Total and average.....	345	284	629	24.58

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	123	99
Divorced.....		
Widowed.....	31	45
Single.....	250	174
Conditions not stated.....	2	
Total.....	406	318
Grand total.....	724	

Stillbirths.....	32
Number of deaths with medical attendance.....	418
Number of deaths without medical attendance.....	306

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	116	88	11	9	224
1 year plus	27	16	2		45
2 years plus	16	5			21
3 years plus	6	9	2		17
4 years plus	4	4		2	10
5 to 9 years	12	9	2	1	24
10 to 14 years	4	3	1	2	10
15 to 19 years	8	9	5	1	23
20 to 24 years	19	22	6	2	49
25 to 29 years	11	19	4	4	38
30 to 34 years	6	8	2	3	19
35 to 39 years	10	9	5	1	25
40 to 44 years	16	11		4	31
45 to 49 years	18	14		1	33
50 to 54 years	9	8	2	3	22
55 to 59 years	7	2	6		15
60 to 64 years	14	8	4		26
65 to 69 years	9	5	3		17
70 to 74 years	10	6	2		18
75 to 79 years	5	2	1		8
80 to 84 years	8	14			22
85 to 89 years	4	3	1	1	9
90 to 94 years	4	5			9
95 to 99 years		4			4
100 years and over	2	1			3
Age not stated					
Total	345	284	59	34	722

Two (2) male Filipinos, 50 and 80 years respectively, permanent residences unknown, not included in the above table.

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH, AND MUNICIPAL DISTRICTS

Age groups	Health districts													
	No. 1, Meisic				No. 2, Sampaloc									
	No. 1, Tondo		No. 2, San Nicolas		No. 3, Binondo		No. 4, Santa Cruz		No. 5, Quiapo		No. 6, San Miguel		No. 7, Sampaloc	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year.	42	37	7	3	3	3	18	7	1	1	2	24	15	
1 year plus.	10	6	1	1	2		5		1	1		7	6	
2 years plus.	5	4	1				1				2	2		
3 years plus.	3	3		1	1	1	1	2					1	
4 years plus.	2	1					2	2						
5 to 9 years.	3	5			1	1	2	2				1		
10 to 14 years.	3	2			1		4							
15 to 19 years.	2	2					5	6	1		1	1	2	
20 to 24 years.	3	5	5		1	1	1	1				1	1	
25 to 29 years.	1	9	2		1	1	3	1				1	2	
30 to 34 years.		3					4	2						
35 to 39 years.	5	2					4	3				5	6	
40 to 44 years.	3	5	2	1			4	2			1	3	5	
45 to 49 years.	11	2	1		1	1	3	2		1	1	1	1	
50 to 54 years.	2	2	1		2	1	1	1		1		1	1	
55 to 59 years.	4	4			1		4	1		1		3	3	
60 to 64 years.	2	2	1	1			1	1		1	1	2	2	
65 to 69 years.	4	4					1	1				1	1	
70 to 74 years.	3	1					1	1				2	3	
75 to 79 years.	4	1					1	1				1	1	
80 to 84 years.	3	1					1	2				1	2	
85 to 89 years.	4	1			1		1	1				2	1	
90 to 94 years.	1	1					1	1				1	1	
95 to 99 years.	2	2	1				1	1				1		
100 years and over.														
Age not stated.														
Total	125	106	22	14	13	8	60	36	10	4	7	3	55	50
Grand total	231		36		21		96		14		10		105	

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH, AND MUNICIPAL DISTRICTS—Continued

Age groups	Health districts No. 3, Paco												Total	Grand total			
	No. 8, Port Area		No. 9, Intramuros		No. 10, Ermita		No. 11, Malate		No. 12, Paco		No. 13, Pandacan				No. 14, Santa Ana		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female			Male	Female	
Under 1 year.....			4	1	1	5	6	7	5	6	3	1	.....	3	116	88	204
1 year plus.....			1	1										1	27	16	43
2 years plus.....		1					1			1					16	5	21
3 years plus.....												1		1	6	9	15
4 years plus.....													1		4	4	8
5 to 9 years.....							1	1							12	4	16
10 to 14 years.....									1						4	3	7
15 to 19 years.....										1					8	9	17
20 to 24 years.....							2	5	1	1		2		1	19	22	41
25 to 29 years.....							2	2	1		1				11	19	30
30 to 34 years.....			1		1		1		1						6	8	14
35 to 39 years.....															10	9	19
40 to 44 years.....									1					1	16	11	27
45 to 49 years.....										1					18	14	32
50 to 54 years.....											1			1	9	8	17
55 to 59 years.....															7	2	9
60 to 64 years.....					2		1			1					14	8	22
65 to 69 years.....					1		1								9	5	14
70 to 74 years.....							2		1						10	6	16
75 to 79 years.....										1					5	2	7
80 to 84 years.....															8	14	22
85 to 89 years.....														1	4	3	7
90 to 94 years.....			1					1							4	5	9
95 to 99 years.....															4	4	8
100 years and over.....															2	1	3
Age not stated.....								1									
Total.....	1	1	9	6	4	10	20	20	11	14	6	5	3	7	345	284	629
Grand total.....	1	1	15		14		40		25		11		10		629		629

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

621

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female			
I. Epidemic, endemic, and infectious diseases														
1-42														
1	Typhoid and paratyphoid fever:													
5	a. Typhoid fever.....			3	2					3				8
9	Malaria:													
10	a. Malarial fever.....			5	2					1				6
11	Whooping cough.....			1										1
	Diphtheria.....													
	Influenza:													
	a. With pulmonary complications specified.....			1										1
	b. Without pulmonary complications specified.....			2										2
14	Asiatic cholera.....				2									2
16	Dysentery:													
	a. Amebic.....			1	4									5
	b. Bacillary.....			2	1									3
	c. Unspecified or due to other causes.....			2	4									6
23	Lethargic encephalitis.....			1										1
29	Tetanus:													
	a. Umbilical.....				3									3
31	Tuberculosis of the respiratory system.....			83	71					2		1		157
32	Tuberculosis of the meninges and central nervous system.....			2	2									4
36	Tuberculosis of other organs:													
	a. Tuberculosis of the skin and subcutaneous cellular tissue.....			1										1
	b. Tuberculosis of the bones (vertebral column excepted).....			1										1
	c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted).....			1										1
38	Syphilis.....			1										1
II. General diseases not included in class I														
43-69														
44	Cancer and other malignant tumors of the stomach, liver.....			3	2					1				6
45	Cancer and other malignant tumors of the peritoneum, intestines, rectum.....			1										1
46	Cancer and other malignant tumors of the female genital organs.....				1									1
47	Cancer and other malignant tumors of the breast.....													1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International numbers (revision of 1950)	Causes of death	Americans		Filipinos		Spaniards		Other Euro- peans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
153	Acute aches...			1	1									2
154	Other diseases of the skin and annexa.			1	1									1
159	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included):													
	b. Congenital malformations of the heart...			1	1									1
	c. Others under this title.			1	1									2
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema			16	16									32
161	Premature birth; injury at birth:													
161	a. Premature birth (not stillborn).	1		6	3									10
162	Other diseases peculiar to early infancy.			3										3
164-	<i>XIII. Old age</i>													
164	Senility.			13	21									34
165-203	<i>XIV. External causes</i>													
179	Accidental burns (conflagration excepted)				1									1
182	Accidental drowning.													1
186	Accidental traumatism by fall.			1										1
188	Accidental traumatism by other crushing (vehicles, railways, landallides, etc.):						1							1
	c. Automobile accidents.													1
	Total	3	2	321	281	5	1			14		2		629
	Grand total	5		602		6				14		2		629

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
	a. Typhoid fever.....					1				1				2
5	Malaria:													
	a. Malarial fever.....			1										1
9	Whooping cough.....			1										1
11	Influenza:													
	b. Without pulmonary complications specified.....			1		1								2
14	Asiatic cholera.....			4		1								5
21	Erysipelas.....			1										1
23	Lethargic encephalitis.....					1								1
29	Tetanus:													
	b. Others.....			1										1
31	Tuberculosis of the respiratory system.....			9		3				1				12
41	Purulent infection, septicemia.....			1										1
43-69	<i>II. General diseases not included in class I</i>													
45	Cancer and other malignant tumors of the peritoneum, intestines, rectum.....									1				1
49	Cancer and other malignant tumors of other or unspecified organs.....			2										2
55	Beriberi:													
	a. Infants.....			3		1								4
56	Rickets.....			1										1
57	Diabetes mellitus.....			1										1
60	Diseases of the thyroid gland:													
	a. Exophthalmic goiter.....					1								1
69	Other general diseases.....			1										1

129-142 VII. Nonvenereal diseases of the genito-urinary system and annexa

128	Acute nephritis (including unspecified under 10 years of age).....	1	1				2
131	Other diseases of the kidneys and annexa.....	1	1				2
139	Benign tumors of the uterus.....		1				1
43-150	VIII. The puerperal state						
146	Puerperal septicemia.....		1				1
164	XIII. Old age						
164	Senility.....	1					1
165-203	XIV. External causes						
177	Other acute accidental poisonings (gas excepted).....		1				1
179	Accidental burns (conflagration excepted).....	1					1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):						
	c. Automobile accidents.....	2					2
198	Homicide by cutting or piercing instruments.....	1					1
	Total.....	1	53	33	1	5	93
	Grand total.....	1	86		1	5	93

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough.....					1	1
16. Dysentery:						
c. Unspecified or due to other causes.....					1	1
21. Erysipelas.....					1	1
29. Tetanus:						
a. Umbilical.....				3		3
81. Tuberculosis of the respiratory system.....	2					2
82. Tuberculosis of the meninges and central nervous system.....					1	1
38. Syphilis.....	1					1
65. Beriberi.....				10	47	57
56. Rickets.....					1	1
71. Meningitis:						
a. Simple meningitis.....					5	5
84. Other diseases of the nervous system.....				1		1
99. Bronchitis:						
a. Acute.....				1	38	39
b. Chronic.....					6	6
100. Bronchopneumonia:						
a. Bronchopneumonia.....					41	41
b. Capillary bronchitis.....					3	3
102. Pleurisy.....					1	1
112. Other diseases of the stomach (cancer excepted).....				1		1
113. Diarrhea and enteritis.....					6	6
128. Acute nephritis.....					3	3
154. Other diseases of the skin and annexa.....					1	1
159. Congenital malformations (stillbirths not included):						
b. Congenital malformation of the heart.....				1		1
c. Others under this title.....	1			1		2
160. Congenital debility, icterus, and sclerema.....	18			6	8	32
161. Premature birth; injury at birth:						
a. Premature birth (not still-born).....	8	1		1		10
162. Other diseases peculiar to early infancy.....	2				1	3
179. Accidental burns (conflagration excepted).....					1	1
Total.....	32	1		25	166	224

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	22,910
Number of rats caught by spring traps.....	2,694
Number of cage-wire traps set.....	672
Number of rats caught by cage-wire traps.....	15
Number and kind of baits (coconuts).....	23,582
Number of poison portions placed.....	13,506
Number of rats found poisoned.....	201
Number of rats killed by clubs and other weapons.....	431
Number of rats found dead from other causes.....	421
Total number of rats otherwise caught, found dead, or killed.....	3,765
Total number of rats sent to the laboratory for examination.....	3,765
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF NOVEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total		
	Male		Female		Male		Female		Male		Female				
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
I	No. 1			2					1			3		3	
	No. 2	1	1							1	1		1	1	
	No. 3														
	No. 4	3	1	7		1	1			4	2	7	1	11	3
	No. 5														
II	No. 6														
	No. 7	2	1				1			2	1		1	2	2
	No. 8														
	No. 9	5		1						5		1		6	
	No. 10	2	1							2	1		1	2	1
III	No. 11	2	1	2						2	1	2		4	1
	No. 12	1								1				1	
	No. 13														
	No. 14	1								1				1	
	Transients	10	1	7		1				10	1	7	1	17	2
	27	6	19		3	1	1	1	1	28	7	20	3	48	10
	Total														

REMARKS:

Total cases reported within the month in the City of Manila	49
Resident cases	31
Nonresident cases	18
Foreign cases	0
Total deaths reported within the month in the City of Manila	10
Deaths among resident cases	8
Deaths among nonresident cases	2
Deaths among foreign cases	0
Total cases confirmed as typhoid fever	48
Cases confirmed as paratyphoid fever	0
By autopsy	0
By blood culture	0
By widal reaction	0
By urine examination	3
By feces examination	0
By clinical symptoms	0
Cases not confirmed	45
Typoid carrier—1	1

DYSENTERIES REPORTED DURING THE MONTH OF NOVEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1		2	1	2	2	5	5	2	2	7	6	9	8
	No. 2				1	1			1	1			1	1
	No. 3				1	1	1	1	1	1	1	1	2	2
	No. 4		1	1									1	1
	No. 5				1	1			1	1			1	1
II.	No. 6						1	1						1
	No. 7													
	No. 8													
	No. 9													
III.	No. 10													
	No. 11							1	1		1	1	1	1
	No. 12													
	No. 13													
	No. 14													
Transients														
Total			8	2	5	5	7	7	5	5	10	9	15	14

REMARKS:

Total cases reported within the month in the City of Manila

Resident cases

Nonresident cases

Total deaths reported within the month in the City of Manila

Deaths among resident cases

Deaths among nonresident cases

Total cases not confirmed as dysentery

Dysentery carriers—3

19

19

0

14

14

0

5

CONFIRMED CASES

631

Health districts	Hospital				Home				Total			
	Male		Female		Male		Female		Male		Female	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1	1	1						1		1	
	No. 2		1	1						1		1
	No. 3	2							2			2
	No. 4	2	2	1					2	1		4
II.	No. 5											
	No. 6											
	No. 7											
	No. 8											
III.	No. 9											
	No. 10	1							1			1
	No. 11	1	2						1	2		3
	No. 12											
Transients.	No. 13											
	No. 14											
	No. 15	8	4	6	1				8		1	14
	No. 16											6
Total	15	4	12	3					15	4	12	27

REMARKS:

Total cases reported within the month in the City of Manila.

Resident cases

Nonresident cases

Foreign cases

Resident cases not confirmed as cholera

Nonresident cases not confirmed as cholera

Total deaths reported within the month in the City of Manila.

Deaths among resident cases confirmed as cholera

Deaths among nonresident cases confirmed as cholera

Cholera carriers—83

27

13

14

0

0

0

7

2

5

DIPHThERIA REPORTED DURING THE MONTH OF NOVEMBER, 1925, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total					
	Male			Female			Male			Female			Male			Female			Male			Female		
	Cases	Deaths	Cases	Cases	Deaths	Cases	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Cases	Deaths	Cases	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.																								
No. 1.	1	1	1										1	1	1	1							2	1
No. 2.																								
No. 3.			1													1							1	
No. 4.																								
No. 5.																								
No. 6.			1													1							1	
No. 7.	1												1										1	
No. 8.																								
No. 9.																								
No. 10.	2												2										2	
No. 11.																								
No. 12.	1												1										1	
No. 13.																								
No. 14.	4			1									4			1						1		
Transients.																								
Total.	9	1	4										9	1	4								13	1

REMARKS:

Total cases reported within the month in the City of Manila

Resident cases	17
Nonresident cases	10
Nonresident cases not confirmed as diphtheria	7
Resident cases not confirmed as diphtheria	2
Nonresident cases not confirmed as diphtheria	2
Total deaths reported within the month in the City of Manila	1
Deaths among resident cases confirmed as diphtheria	1
Deaths among resident cases not confirmed as diphtheria	0
Deaths among nonresident cases confirmed as diphtheria	0
Deaths among nonresident cases not confirmed as diphtheria	0

Diphtheria carriers—2

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF NOVEMBER, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	11	3	6	
Varicella.....	6	4		
Varioloid.....				
Smallpox.....				
Measles.....	16	10		
Whooping cough.....		2		2
Influenza.....	12	5	3	
Bubonic plague.....				
Encephalitis lethargica.....	1	1	1	1
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	155	113	86	71
Tuberculosis of all forms.....	4	2	5	2
Beriberi, infantile.....	37	17	36	17
Beriberi, adult.....	2	1	2	1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	10	1	1	
Varicella.....	18	6		
Varioloid.....				
Smallpox.....				
Measles.....	4			
Whooping cough.....	1		1	
Influenza.....	3	1	1	1
Bubonic plague.....				
Encephalitis lethargica.....		1		1
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	25	10	9	3
Tuberculosis of all forms.....				
Beriberi, infantile.....	3	1	3	1
Beriberi, adult.....				

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR THE
MONTH OF NOVEMBER, 1925**

Sera and vaccines	On hand November 1, 1925	Received during the month	Total to be accounted for	Dis- tributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	50,000	1,050,000	1,100,000	500,000	550,000
Anti-dysenteric serum (ampoules).....	109		109	50	59
Anti-tetanic serum (units).....	580,000	61,000	641,000	361,000	280,000
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	37,380	522,000	559,380	449,120	110,260
Dried vaccine virus (units).....	38,100	100,000	138,100	98,600	39,500
Fresh vaccine virus (units).....	88,900	200,000	288,900	189,100	99,800
Gonococcus vaccine (ampoules).....					
Mixed typhoid-cholera vaccine (c.c.).....	10,860	250,800	261,660	208,140	53,520
Normal horse serum (ampoules).....					
Streptococcus vaccine (ampoules).....					
Typhoid vaccine (c.c.).....	11,210	6,000	17,210	12,840	4,370

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1925

Health districts	Municipal districts	Vaccinations		Inspection of persons vaccinated							
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over		Total
			Never	Successfully	Positive	Negative	Positive	Negative	Positive	Negative	
No. 1.	Tondo.	2,257	252	1,985	322	10	81	26	79	115	482
	San Nicolas.	41	39	2	43		2				45
	Binondo.	83	83		37	1	4	1			41
	Santa Cruz.	1,333	206	1,101	177	3	73	18	51	130	301
	Quiapo.	55	54	1	49	1					49
No. 2.	San Miguel.	38	38		26		1				27
	Sampaloc.	125	125	3	139	2	3				142
	Port Area.	2	2		2						2
	Intramuros.	50	48	2	50	2	2				52
	Ermita.	54	54		57		1				58
No. 3.	Malate.	1,979	60	1,898	55	2	33	5	99	80	187
	Paco.	68	64		63	4					63
	Pandacan.	40	40		45		2				47
	Santa Ana.	37	36	1	33	1	1				34
	Total.	6,165	1,101	4,984	1,098	26	203	50	229	325	1,530
											401

Vaccine virus:

Received	11,500
Used	10,700
Remained	800

**ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING
THE MONTH OF NOVEMBER, 1925**

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.....	890		427		1,317	
	San Nicolas.....	1,083		139		1,222	
	Binondo.....	412		33		445	
No. 2.	Santa Cruz.....	559		73		632	
	Quiapo.....	475		185		660	
	San Miguel.....	385		108		493	
	Sampaloc.....	251		50		301	
	Port Area.....	24				24	
No. 3.	Intramuros.....	255		99		354	
	Ermita.....	118		64		182	
	Malate.....	222		96		318	
	Paco.....	563		121		684	
	Pandacan.....	251		111		362	
	Santa Ana.....	197		54		251	
	Total.....	5,685		1,560		7,245	

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	31,242	4,478	19,189	7,575
Agusan.....	3,479	863	1,122	1,494
Albay.....	29,131	7,596	8,249	13,286
Antique.....	12,068	5,644	3,151	3,263
Bataan.....	12,323	3,161	4,851	4,311
Batanes.....	1,719	386	601	732
Batangas.....	36,669	10,187	8,243	18,239
Bohol.....	157,935	30,345	87,095	40,495
Bulacan.....	150,092	25,060	113,147	11,885
Cagayan.....	44,425	6,376	21,089	16,960
Camarines Norte.....	6,612	2,181	1,944	2,487
Camarines Sur.....	134,265	15,455	91,340	27,470
Capiz.....	98,288	27,431	51,445	14,412
Catanduanes.....	13,193	3,466	3,013	6,714
Cavite.....	32,595	6,884	16,988	9,723
Cebu.....	80,337	24,790	18,889	36,658
Cotabato.....	18,137	5,693	5,535	6,909
Culion Leper Colony.....	328	27	220	81
Davao.....	8,953	3,736	2,682	2,535
Ilocos Norte.....	23,399	6,096	6,813	10,490
Ilocos Sur.....	68,962	12,266	30,189	21,507
Iloilo.....	58,448	26,946	10,152	21,350
Isabela.....	9,880	2,910	3,903	3,067
Laguna.....	24,230	8,550	6,534	9,146
Lanao.....	14,872	3,246	7,747	3,879
La Union.....	97,593	9,720	68,187	19,686
Leyte.....	77,221	28,444	10,827	37,950
Marinduque.....	8,040	1,772	2,588	3,680
Masbate.....	12,632	3,368	4,524	4,740
Mindoro.....	5,998	1,229	1,654	3,115
Misamis.....	63,596	19,056	31,523	13,017
Mountain Province.....	18,049	5,816	6,569	5,664
Nueva Ecija.....	31,970	9,869	9,047	13,054
Nueva Vizcaya.....	9,396	1,126	4,703	3,567
Occidental Negros.....	20,182	10,247	3,723	6,212
Oriental Negros.....	27,263	6,702	9,675	10,886
Pampanga.....	32,268	5,894	12,280	14,094
Pangasinan.....	67,313	21,364	8,361	37,588
Palawan.....	25,045	7,531	11,201	6,313
Rizal.....	28,297	7,521	13,588	7,188
Romblon.....	5,642	2,365	1,253	2,024
Samar.....	148,910	23,957	82,018	42,935
Sorsogon.....	24,332	7,828	8,027	8,477
Sulu.....	25,452	11,360	6,637	7,455
Surigao.....	35,066	10,556	9,681	14,829
Tarlac.....	17,050	3,702	9,632	3,716
Tayabas.....	30,542	9,824	8,561	12,157
Zambales.....	7,232	1,761	2,644	2,827
Zamboanga.....	23,589	6,865	7,478	9,246
Total.....	1,904,255	460,650	858,512	585,093

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	830	413	4,071	1,990	10,553	7,234	15,454	9,637
Agusan.....	302	148	197	137	315	762	814	1,047
Albay.....	2,577	1,119	2,548	1,075	5,800	4,046	10,925	6,240
Antique.....	1,158	180	2,450	541	2,027	1,093	5,635	1,814
Bataan.....	1,868	332	3,256	1,681	2,906	1,801	8,030	3,814
Batanes.....	205	80	335	125	651	208	1,191	413
Batangas.....	4,722	718	7,032	2,175	8,366	7,352	20,120	10,240
Bohol.....	5,180	1,022	18,368	3,939	58,642	41,908	77,190	46,869
Bulacan.....	7,443	669	14,772	3,083	42,937	34,816	65,152	38,588
Cagayan.....	2,360	439	5,408	1,820	17,723	10,821	25,491	12,580
Camarines Norte.....	1,148	229	1,312	354	2,129	757	4,589	1,340
Camarines Sur.....	4,184	781	11,209	2,608	50,955	22,580	66,348	25,969
Capiz.....	5,672	897	10,901	2,092	32,563	10,133	49,136	13,122
Catanduanes.....	1,451	647	1,650	657	1,867	1,413	4,968	2,717
Cavite.....	3,762	661	5,223	1,495	13,475	7,714	22,460	9,870
Cebu.....	7,273	2,893	9,971	3,285	13,687	12,565	30,931	18,743
Cotabato.....	351	234	1,173	789	4,441	3,699	5,965	4,722
Culion Leper Colony.....	19	6	8	3	173	119	200	128
Davao.....	373	107	1,443	499	4,382	1,789	6,198	2,395
Ilocos Norte.....	2,527	357	5,289	1,095	6,723	5,394	14,539	6,846
Ilocos Sur.....	6,610	1,473	11,841	3,919	21,862	11,824	40,313	17,216
Iloilo.....	7,710	738	11,792	1,922	16,401	6,779	35,903	9,439
Isabela.....	386	176	1,348	617	2,830	2,391	4,564	3,184
Laguna.....	4,056	1,073	3,469	1,463	5,327	6,811	12,852	9,347
Lanao.....	843	158	1,494	504	2,823	1,262	5,160	1,924
La Union.....	3,954	702	10,359	5,325	29,393	24,029	43,706	30,056
Leyte.....	6,961	2,126	10,301	3,799	18,528	8,644	35,790	14,569
Marinduque.....	709	234	1,006	366	2,577	1,120	4,292	1,720
Masbate.....	633	268	1,205	585	3,145	2,388	4,983	3,241
Mindoro.....	399	98	853	348	1,869	1,206	3,121	1,652
Misamis.....	1,679	722	6,051	2,000	19,303	7,205	27,033	9,927
Mountain Province.....	744	149	2,145	715	4,233	2,364	7,122	3,228
Nueva Ecija.....	4,287	1,105	6,203	2,444	7,892	6,198	18,882	9,747
Nueva Vizcaya.....	529	42	1,264	575	3,536	3,135	5,329	3,752
Occidental Negros.....	3,684	810	3,739	1,187	4,095	1,341	11,518	3,288
Oriental Negros.....	3,024	953	4,311	1,949	7,580	4,473	14,915	7,375
Pampanga.....	2,602	497	3,485	1,178	9,557	9,381	15,644	11,056
Pangasinan.....	10,470	2,080	14,012	3,850	16,278	11,959	40,760	17,889
Palawan.....	410	32	1,949	207	8,558	5,191	10,917	5,430
Risal.....	3,987	1,040	3,775	1,729	5,780	7,168	13,542	9,937
Romblon.....	656	153	1,169	344	1,621	839	3,446	1,336
Samar.....	3,299	964	12,572	4,305	49,494	21,048	65,365	26,317
Sorsogon.....	2,583	746	3,952	1,691	6,377	3,722	12,862	6,159
Sulu.....	922	350	4,415	1,283	7,544	2,656	12,881	4,289
Surigao.....	1,299	406	3,406	880	9,725	4,323	14,430	5,609
Tarlac.....	1,739	877	2,169	1,004	3,579	5,429	7,487	6,810
Tayabas.....	3,081	684	4,796	1,309	11,286	5,687	19,163	7,680
Zambales.....	866	201	1,042	653	1,823	2,171	3,731	3,025
Zamboanga.....	1,599	1,141	2,153	1,704	3,754	4,412	7,506	7,257
Total.....	133,076	81,425	242,892	76,748	562,085	351,860	938,053	459,533

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injection, made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....						
Agusan.....						
Albay.....	13,184	10,038	1,998	2,214		
Antique.....	1,518	2,079				
Bataan.....						
Batanes.....						
Batangas.....	369	175	56	20		
Bohol.....						
Bukidnon.....						
Bulacan.....	21,166	16,244	303	896		
Cagayan.....						
Camarines Norte.....	545	206	152	86		
Camarines Sur.....	15,410	10,521				
Capiz.....						
Catanduanes.....	126	129	152	144		
Cavite.....						
Cebu.....	1,639	2,503	242	162		
Cotabato.....						
Davao.....	90	135	74	99		
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....	1		1			
Isabela.....	170	12	9	2		
Laguna.....	2,293	2,806	32	3		
Lanao.....						
La Union.....						
Leyte.....						
Marinduque.....						
Masbate.....						
Mindoro.....						
Misamis.....						
Mountain Province.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Palawan.....						
Pampanga.....	2,845	2,705	2,138	2,065		
Pangasinan.....	155	143	62	43		
Rizal.....	96	151				
Romblon.....						
Samar.....						
Sorsogon.....	2,148	132	171	78		
Sulu.....						
Surigao.....						
Tarlac.....	112	7	44	5		
Tayabas.....						
Zambales.....						
Zamboanga.....						
Total.....	61,867	47,986	5,434	5,817		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925**—Continued

Provinces	Number of injections made in fema'les						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....									
Agusan.....									
Albay.....	9,033	7,478	1,799	1,733			39,733	7,744	
Antique.....									
Bataan.....	1,289	1,661					6,547		
Batanes.....									
Batangas.....	439	158	130	28			1,141	234	
Bohol.....									
Bukidnon.....									
Bulacan.....	22,233	12,502	309	653			72,145	2,161	
Cagayan.....									
Camarines Norte.....	179	129	69	50			1,059	357	
Camarines Sur.....	13,234	8,977					48,142		
Capiz.....									
Catanduanes.....	34	89	81	114			378	491	
Cavite.....									
Cebu.....	1,262	2,179	195	121			7,583	720	
Cotabato.....									
Davao.....	32	105	26	85			362	284	
Ilocos Norte.....									
Ilocos Sur.....									
Iloilo.....	6		6				7	7	
Isabela.....	183	9	4	1			374	16	
Laguna.....	2,253	2,646	74	2			9,998	111	
Lanao.....									
La Union.....									
Leyte.....									
Marinduque.....									
Masbate.....									
Mindoro.....									
Misamis.....									
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Palawan.....									
Pampanga.....	3,549	2,667	2,458	2,010			11,766	8,671	
Pangasinan.....	84	144	41	55			526	201	
Rizal.....	73	92					412		
Romblon.....									
Samar.....									
Sorsogon.....	866	183	204	175			3,329	628	
Sulu.....									
Surigao.....									
Tarlac.....	109	49	39	10			277	98	
Tayabas.....									
Zambales.....									
Zamboanga.....									
Total.....	54,858	39,068	5,435	5,037			203,779	21,723	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....						
Agusan.....						
Albay.....	177	172	9	23	4	4
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	873	152	605	153	70	1
Bohol.....						
Bukidnon.....						
Bulacan.....	496	181	459	172	318	107
Cagayan.....						
Camarines Norte.....						
Camarines Sur.....						
Capiz.....						
Catanduanes.....						
Cavite.....						
Cebu.....	108	77	8	2		
Cotabato.....						
Davao.....						
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....	53	30	21	6	19	6
Isabela.....						
Laguna.....	62	63	52	55	37	4
Lanao.....						
La Union.....					402	30
Leyte.....	32	49	22	16	12	8
Marinduque.....						
Masbate.....						
Mindoro.....	4	4	4	4	4	4
Misamis.....	204	94	21	17		
Mountain Province.....						
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Palawan.....						
Pampanga.....						
Pangasinan.....	368	298	218	163	125	124
Rizal.....	121	29	61	12	50	11
Romblon.....						
Samar.....	311	80	162	27	52	4
Sorsogon.....	80	16	14		20	4
Sulu.....						
Surigao.....						
Tarlac.....	65	1	54	1	26	1
Tayabas.....						
Zambales.....						
Zamboanga.....						
Total.....	2,954	1,246	1,710	651	1,139	308

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abra.....									
Agusan.....									
Albay.....	92	101	2	4	5	2	542	38	15
Antique.....									
Bataan.....									
Batanes.....									
Batangas.....	659	194	457	153	50	1	1,878	1,368	122
Bohol.....									
Bukidnon.....									
Bulacan.....	578	209	534	194	392	116	1,464	1,359	933
Cagayan.....									
Camarines Norte.....									
Camarines Sur.....									
Capiz.....									
Catanduanes.....									
Cavite.....									
Cebu.....	109	59	4	2			353	16	
Cotabato.....									
Davao.....									
Ilocos Norte.....									
Ilocos Sur.....									
Iloilo.....	76	16	38	2	46	2	175	67	73
Isabela.....									
Laguna.....	50	47	39	46	35	11	222	192	87
Lanao.....									
La Union.....					260	21			713
Leyte.....	49	33	33	20	6	2	163	91	28
Marinduque.....									
Masbate.....									
Mindoro.....	4	1	4	1	4	1	13	13	13
Misamis.....	189	100	78	12			587	128	
Mountain Province.....									
Nueva Ecija.....									
Nueva Vizcaya.....									
Occidental Negros.....									
Oriental Negros.....									
Palawan.....									
Pampanga.....									
Pangasinan.....	376	311	251	157	206	98	1,353	789	553
Rizal.....	83	28	45	18	49	15	261	136	125
Romblon.....									
Samar.....	186	67	115	14	23	3	644	318	82
Sorsogon.....	93	80	16			4	269	30	28
Sulu.....									
Surigao.....									
Tarlac.....	3	3	3	3	2	3	72	61	32
Tayabas.....									
Zambales.....									
Zamboanga.....									
Total.....	2,547	1,249	1,619	626	1,078	279	7,996	4,606	2,804

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....	19	3	463	31		
Agusan.....						
Albay.....	142	166	47	59		
Antique.....	929	1,181	326	490		
Bataan.....	902	275	410	99		
Batanes.....	235	78	51	13		
Batangas.....	124	61	101	55		
Bohol.....	1,067	279	754	178		
Bukidnon.....						
Bulacan.....	2,222	1,082	1,229	659		
Cagayan.....	825	332	359	125		
Camarines Norte.....	791	276	271	55		
Camarines Sur.....	2,225	1,069	1,320	649		
Capiz.....	1,597	594	693	287		
Catanduanes.....						
Cavite.....	4,402	4,666	3,990	4,190		
Cebu.....	10,362	7,356	3,013	1,578		
Cotabato.....	717	454	186	223		
Davao.....	196	116	168	116		
Ilocos Norte.....	1,879	1,796	863	1,976		
Ilocos Sur.....	1,773	711	883	386		
Iloilo.....	815	430	437	250		
Isabela.....						
Laguna.....	3,434	1,807	1,828	1,192		
Lanao.....	1,193	551	630	454		
La Union.....	2,938	2,191	2,449	1,924		
Leyte.....	2,972	1,315	1,281	652		
Marinduque.....	1,117	1,118	692	709		
Masbate.....	842	599	564	74		
Mindoro.....	191	178	16	1		
Misamis.....	992	335	289	30		
Mountain Province.....	299	222				
Nueva Ecija.....	1,326	556	827	496		
Nueva Vizcaya.....	519	442	311	421		
Occidental Negros.....	2,832	1,943	1,878	1,020		
Oriental Negros.....	686	469	661	324		
Palawan.....						
Pampanga.....	9,290	8,884	6,703	7,225		
Pangasinan.....	7,734	6,514	6,249	5,626		
Rizal.....	8,903	5,065	1,820	703		
Romblon.....	56	135	34	76		
Samar.....	328	540	356	422		
Sorsogon.....	729	265	104	64		
Sulu.....	86	26	36	6		
Surigao.....	402	164	309	184		
Tarlac.....	2,219	1,436	876	468		
Tayabas.....	1,855	386	881	193		
Zambales.....	1,045	579	1,006	536		
Zamboanga.....	3,343	2,281				
Total.....	86,553	58,926	45,364	34,219		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra.....	6	1	222	34			29	750	
Agusan.....									
Albay.....	142	103	47	52			553	205	
Antique.....	789	1,040	323	429			3,939	1,568	
Bataan.....	682	189	342	61			2,048	912	
Batanes.....	169	48	25	9			530	98	
Batangas.....	130	24	123	15			339	294	
Bohol.....	849	297	597	214			2,492	1,743	
Bukidnon.....									
Bulacan.....	1,903	897	1,129	576			6,104	3,593	
Cagayan.....	409	259	133	106			1,825	723	
Camarines Norte.....	311	160	78	41			1,538	445	
Camarines Sur.....	1,870	943	1,151	606			6,107	3,726	
Capiz.....	1,108	432	459	213			3,731	1,652	
Catanduanes.....									
Cavite.....	4,095	3,901	3,638	3,529			17,064	15,347	
Cebu.....	7,999	5,717	2,213	1,406			31,434	8,210	
Cotabato.....	227	291	71	174			1,689	654	
Davao.....	56	82	44	82			450	410	
Ilocos Norte.....	2,513	1,779	974	1,667			7,967	5,480	
Ilocos Sur.....	1,131	629	520	324			4,244	2,113	
Iloilo.....	712	312	488	182			2,269	1,357	
Isabela.....	115	30	101	29			145	130	
Laguna.....	3,331	1,428	2,081	997			10,000	6,098	
Lanao.....	502	470	282	389			2,716	1,755	
La Union.....	2,006	1,388	1,765	1,126			8,523	7,264	
Leyte.....	2,182	2,284	1,218	695			8,753	3,846	
Marinduque.....	766	1,014	438	764			4,015	2,603	
Masbate.....	340	396	254	51			2,177	943	
Mindoro.....	54	117	71	38			540	126	
Misamis.....	856	396	228	26			2,579	573	
Mountain Province.....	177	241					939		
Nueva Ecija.....	701	491	569	591			3,074	2,483	
Nueva Vizcaya.....	395	453	231	438			1,809	1,401	
Occidental Negros.....	1,934	1,916	1,444	1,076			8,625	5,418	
Oriental Negros.....	305	360	381	309			1,820	1,675	
Palawan.....									
Pampanga.....	9,765	7,245	6,916	5,830			35,184	26,674	
Pangasinan.....	7,696	6,057	6,262	5,205			28,001	23,342	
Rizal.....	8,395	4,141	2,083	623			26,504	5,229	
Romblon.....		86		42			277	152	
Samar.....	170	455	206	359			1,493	1,343	
Sorsogon.....	799	244	114	43			2,037	325	
Sulu.....	56	24	19	4			192	65	
Surigao.....	277	101	177	108			944	778	
Tarlac.....	1,311	1,016	492	348			5,982	2,184	
Tayabas.....	1,179	245	497	75			3,665	1,646	
Zambales.....	711	542	691	510			2,877	2,743	
Zamboanga.....	3,134	2,166					10,924		
Total.....	72,258	50,410	39,097	29,396			268,147	148,076	

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF NOVEMBER, 1925**

(No case and no death reported during the month.)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING
THE MONTH OF NOVEMBER, 1925**

Provinces and towns	Cases	Deaths
Bulacan:		
Baliuag.....	7	4
Bocaue.....	19	12
Bulacan.....	9	4
Calumpit.....	23	16
Hagonoy.....	39	18
Malolos.....	27	14
Marilao.....	4	4
Meycauayan.....	1	1
Obando.....	3	1
Paombong.....	30	20
Polo.....	1	
Pulilan.....	3	2
Quingua.....	6	5
San Ildefonso.....	3	2
San Rafael.....	3	2
Santa Maria.....	2	2
Capiz.....	(*) 1	(*) 1
Laguna:		
Binang.....	7	2
Canlubang.....	11	7
Lagundi.....	2	1
Locomotive Barn.....	4	2
Mag-apoy.....	2	3
Mangumit.....	2	
Pansol.....	1	1
Pitland.....	3	1
Santa Rosa.....	1	1
Pampanga:		
Apalit.....	1	1
Arayat.....	1	1
Candata.....	1	1
Macabebe.....	1	
Masantol.....	1	1
Minalin.....	1	
San Luis.....	1	1
San Simon.....	1	1
Sexmoan.....	1	1
Rizal:		
San Pedro Makati.....	11	1
Taytay.....	2	1
Total.....	237	135

* Transient from Romblon.

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF NOVEMBER, 1925**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampa- loc	No. 3 Paco	
Orders pending, November 1, 1925:				
Minor	145	87	104	336
Sewer	24	56	6	86
Vacating	10	14	7	31
Filling	10	31	13	54
Total	189	188	130	507
Orders issued during the month:				
Minor	17	9	19	45
Sewer		4	2	6
Vacating		1	2	3
Filling				
Total	17	14	23	54
Orders completed during the month:				
Minor	18	12	15	45
Sewer	1	1		2
Vacating	2			3
Filling				
Total	21	14	15	50
Orders cancelled during the month:				
Minor		1	2	3
Sewer			1	1
Vacating			1	1
Filling				
Total		1	4	5
Orders pending, November 30, 1925:				
Minor	144	83	106	333
Sewer	23	59	7	89
Vacating	8	14	8	30
Filling	10	31	13	54
Total	185	187	134	506
Strong material plans approved:				
New buildings including additions and alterations	23	36	21	80
Permits for minor building construction:				
Approved	33	32	37	102
Disapproved	5	3	8	16
Buildings completed	23	35	41	99
Permits for light and mixed material construction:				
Approved	7	22	21	50
Disapproved	4	5	1	10
Prosecutions:				
Convictions	1			1
Dismissals			1	1
Amount of fines	P10			P10
Plumbing projects issued	78	89	59	226
Plumbing projects completed	78	87	39	204
Premises connected to the sanitary sewer to October 31, 1925.	2,442	4,158	515	7,115
Connected during the month	12	12	11	35
Total	2,454	4,170	526	7,150

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

DECEMBER, 1925

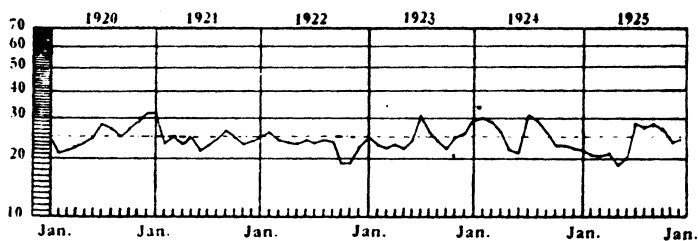
No. 12

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what condition cases are occurring.—U. S. PUBLIC HEALTH SERVICE.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. V

DECEMBER, 1925

No. 12

**REPORT OF THE COMMITTEE ON BERIBERI
INVESTIGATION^a**

[Continued from November Number]

THE TIKITIKI EXTRACT

This question of *tikitiki* production has been brought to the attention of the Committee not only because of its remarkable therapeutic effect in the treatment of infantile beriberi, but also because of its bearing on certain aspects of the question of beriberi control.

The *tikitiki* extract is considered in the Philippines as the sole cure for infantile beriberi, although it has little or no value for the treatment of beriberi in adults. About 91 per cent of the deaths caused by the beriberi occur among infants less than one year of age; and when we consider that the extract has equal, if not greater, value as a prophylactic than as a curative remedy, the importance of this drug in beriberi control is obvious.

It has been mentioned elsewhere in this report that beriberi in the city is decreasing, while in the provinces it is increasing. The reduction of the beriberi mortality in the city to 40 per cent of that of past years is due to the decrease of beriberi in infants, for which the extract of *tikitiki* is considered the only effective cure. It we could, therefore, extend the use of this drug in the provinces, we might expect not only to stop the steady increase in the mortality from this disease, but also to obtain a reduction similar to that noted in Manila.

^a Dr. L. LOPEZ-RIZAL, *Chairman*; and Dr. FERNANDO CALDERON, Dr. JOSE ALBERT, Dr. JOSE FABELLA, Dr. F. O. SANTOS, Major A. P. HITCHENS, Dr. A. H. WELLS, Dr. J. CONCEPCION, and Dr. P. GUTIERREZ, *members*.

TIKITIKI PRODUCTION

The Committee has studied the question of *tikitiki* production. A total of five thousand 50-c.c. bottles of the extract is the maximum output of the Bureau of Science every month. We know that certain drug-stores and pharmacists prepare this drug for public consumption, but the amount they produce is insignificant. It is estimated that about twenty 50-c.c. bottles of *tikitiki* extract are required by each patient in order to secure complete recovery. On this basis, the maximum output of five thousand 50-c.c. bottles of the Bureau of Science would be scarcely enough for 300 babies, and this supply is only about 20 per cent of the total number of children less than one year of age dying from beriberi every month. In view of this fact, the Committee drafted and recommended for the approval of the Legislature a law appropriating ₱60,000 for the purchase of the materials and equipment necessary to produce *tikitiki* extract in sufficient amounts. The bill was submitted to the Honorable Secretary of Public Instruction with a favorable indorsement by Colonel E. L. Munson in a letter of February 7, 1924. Probably because of lack of funds, the bill was not submitted to the Legislature.

One of the reasons why the production of *tikitiki* extract can not be increased is that a great proportion of the alcohol, which is one of the most costly ingredients used in the preparation of the drug, can not be recovered on account of the deficiency and inadequacy of the present equipment. Furthermore, alcohol is so heavily taxed that its costs is raised to almost five times its original price on account of the tax. For these reasons, the annual appropriation for the preparation of *tikitiki* extract soon becomes exhausted. To remedy the shortage of appropriation, another bill was drafted by the Committee, exempting from this heavy tax the alcohol used in the preparation of the drug. This bill was submitted to the proper authorities, but nothing is known to date of the action taken.

STANDARDIZATION OF TIKITIKI EXTRACT

Tikitiki or rice-bran extract is a preparation that has been in use in the Philippines for the treatment of beriberi in infants since the beginning of the experiments of Doctors Gabriel and Guerrero, and of Vedder and Chamberlain (1911-1912). In view of the satisfactory and brilliant results of the drug in the cure of this disease, several pharmacists have prepared an extract using their own technique and method of preparation.

Consequently, their products vary not only in composition, but also in what is the most important element, the vitamin content. According to analyses made by the Bureau of Science, the *tikitiki* extract sold in the various drugstores of the city show the following composition and prophylactic and therapeutic value. (See Tables VII, VIII, and IX, pages 27, 28, 29, respectively.)

Table VII shows the chemical analysis of the different *tikitiki* extracts examined several years ago, and Table VIII shows the results of analyses performed recently. As may be seen, variations in composition were discovered not only in the samples submitted by different manufacturers, but also in samples of a single manufacturer. Table IX represents the experiments performed to determine the curative and prophylactic value of the *tikitiki* extract. Three groups of birds were subjected to experiments, one group served as a control (I-IV). The birds in this group were fed with polished rice, no *tikitiki* extract was given, and all of the birds died within 27 to 40 days—the duration of the experiment. Another group of birds was used to test the prophylactic value (V-IX). They were given the same basic diet (polished rice) together with *tikitiki* extract of different manufacturers. All these birds lived, except one bird which received Boie's preparation. The third group was used to test the curative value of the different brands of *tikitiki* extract (X, XI, XIII and XIV). To this group, the polished rice diet was given until polineuritis developed, and then *tikitiki* extract was given. The results in this experiments appear to be the same with all the kinds of *tikitiki* extract, since all the birds died; but the number of days the birds survived indicates the relative therapeutic value of each of them. Such a result may permit us to believe that the drug had no curative value. But it should be taken into consideration that the death of the birds, in spite of the treatment, resulted because the *tikitiki* was not given until the polineuritis had reached an advanced stage. It is to be noted that one control bird died on the twenty-seventh day of the experiment and that all the birds in this group were kept upon the basic diet for not less than 24 days (three days less) before *tikitiki* extract was given.

In view of the differences noted in the results of the analyses made by the Bureau of Science of the products of the different drugstores as compared with its own, the advisability of devising a single standard method of preparation and of standardizing the product has been discussed. Since the value of the product depends entirely on its vitamin content, the adoption of a stand-

TABLE VII.—Showing the results of analyses of tikitiki extracts from local manufacturers

Manufacturers	Specific gravity at 30°C.	Total solids	Nitrogen	Ash	Alkalinity total ash cc. N/10 HCL.	Phosphoric acid precipitation	Alcohol	Sucrose	Reducing sugars	Preservatives	Alcohol precipitation
G D S No. 220.	1.149	Per cent 46.89	Per cent 0.28	Per cent 0.30-5.00	Trace	Trace	Present	Per cent 4.28	Per cent 7.02	Glycerine	None
M Z D S.	1.302	56.46	5.10	6.00	Heavy	Heavy	do.	12.83	27.40	None	Heavy
S C D S.	1.334	59.53	5.67	5.50	Thin	do.	do.	1.86	32.26	do.	Thin
A G S S.	1.043	17.05	1.23	1.50	0.922%	do.	Much	Trace	1.78	Glycerine	Heavy
B S.	1.228	44.2	1.21	3.60	4.50	0.922%	None	2.30	28.57	None	Heavy
G D No. 221.	1.372	79.05			0.20	Thin	do.	43.10	5.00	Glycerine	do.
G D No. 222.	0.976	23.10		2.30	5.8	Thin	Much Pres	Trace	11.90	do.	Heavy
L D.	1.238	58.84	1.53	3.52	6.7	1.638%	None	11.28	11.90	do.	do.
N D S.	1.320	60.26		5.07			Trace	3.30	27.78	None	do.

TABLE VIII.—Showing the results of recent analyses of tikitiki extracts from local manufacturers

Manufactured by—	Laboratory No.	Specific gravity at room temperature 30°C.	Total solids	Nitrogen	Ash	Alkalinity of total ash calculated per 5 grams sample N/10 No. c.c.	Phosphorus P ₂ O ₅	Alcohol		Sucrose	Reducing sugars	Preservatives	Alcohol precipitation
								Volume	Weight				
G D S No. 220	142,431	1.0169	Per cent 41.83	Per cent 0.10	Per cent 0.06	Per cent 0.186	Trace	Per cent 50.14	Per cent 41.00	Per cent 2.27	Per cent 0.94	Glycerine	Light.
W B.	142,480	1.0593	23.09	0.34	0.41	1.45	0.56	15.92	12.72	0.12	2.22	Not determined ¹	Do.
F P.	142,430	1.3360	66.19	1.77	5.38	3.95	1.76	Trace		1.95	26.04	None	Heavy.
F M Z.	142,479	1.3290	63.33	1.91	6.38	5.17	2.40	do.		1.25	23.81	do.	Do.
G L D S.	142,704	1.2597	55.18	1.06	5.07	4.98	1.50	do.		4.09	20.21	do.	Do.
B S.	142,603	1.2806	61.06	1.09	4.27	5.35	1.31	do.		2.28	26.66	do.	Do.
R Laba.	145,207	1.2806	54.41	1.64	5.64	6.92	2.97	do.		0.23	16.65	do.	Do.
Tikitiki extract, sugared		1.3887	77.54	0.56	5.03	1.93	1.55	do.		50.92	2.00	do.	Heavy and crystalline
A B.	147,470	1.2803	57.35	0.84	4.19		0.80	do.		6.95	23.15	do.	Heavy.

¹ Sample submitted insufficient for further analysis.

TABLE IX.—Showing the prophylactic and curative value of different brands of tikitiki extracts

Identifying No.	Fowl No.	Manufacturer or trade name	Dose given in c.c.	Weight of fowl at start of experiment in grams	Dead fowl's weight at end of experiment in grams	Decrease in weight in grams	Number of days under basal diet alone	Number of days under treatment	Total days it lived	Remarks
894	I	.....	.....	1,309	745	564	40	.....	40	Control bird.
193	II	.....	.....	1,468	880	588	37	.....	37	Do.
857	III	.....	.....	1,269	830	439	28	.....	28	Do.
200	IV	.....	.....	1,360	910	450	27	.....	27	Do.
195	V	B.S.	1-2	1,308	1,308	0	70	70	.....	Dose increased after 23 days.
820	VI	G.I.D.	1-2	1,297	1,029	268	69	69	.....	Dose increased to 2 c.c. after 24 days.
894	VII	F.Z.	1-2	1,288	1,061	227	69	69	.....	Dose increased to 2 c.c. after 24 days.
842	VIII	F.P.	1	1,377	.....	.....	.....	.....	.....	Lost or stolen. No result.
830	IX	G.D.S. 220.	1-2	1,384	820	564	.....	22	22	Dose increased to 2 c.c. after 17 days. Died faster than control.
167 ^a	X	B.S.	1-2	1,412	770	642	26	21	147	Died. Tikitiki given on the 35th day of basal treatment.
249	XI	F.Z.	1-2	1,539	950	589	28	79	107	Died. Tikitiki given on the 27th day of basal treatment.
106	XIII	B.B.	1-2	1,302	780	380	35	B. Sci. 15 Boile 17	67	Died. Tikitiki given on the 41st day of basal treatment.
817	XIV	F.P.	1-2	1,601	1,100	501	20	48	68	Died. Tikitiki given on the 24th day of basal treatment.

^a Treatment consists in giving palay instead of polished rice as basal diet plus phospho-tungstic acid precipitate from tikitiki extract.

ard method is recommended for this would more likely yield a product of uniform vitamin content.

After consideration of the different procedures that may be employed for assaying or standardizing the product, it was decided that there is no practical method whereby a standard may be established at the present time.

EDUCATIONAL CAMPAIGN

Following the suggestions contained in paragraph 7 of the resolutions of the last Congress of the Far Eastern Association of Tropical Medicine, one of the first subjects discussed by the Committee was the best means for carrying to the people accurate knowledge concerning beriberi. How best could the educational propaganda, concerning the prevention of this disease thru the use of a rational and balanced diet, be disseminated? It was felt that such propaganda is most important and should be the basis of any campaign for the control of beriberi that may be organized in the Philippines. The Committee, realizing that education should reach every corner and isolated spot in the Philippines, thought of no better place for beginning the campaign than among the school-children. For this purpose, a subcommittee was created to prepare a pamphlet embodying adequate elementary knowledge of beriberi and the requirements of the body metabolism and describing the food accessories and substances necessary to prevent this disease. In this pamphlet, a discussion of the nutritive value of several different foods, especially those cultivated and of common use in the Philippines, was included. As the first step, an analysis of Filipino foods and vegetables was made, and their relative vitamin content was determined. These findings, together with the data gathered from similar investigations in the Islands and other countries, constituted the basis for the pamphlet which has been prepared by Professor Santos and discussed and approved by the Committee. After its approval by the Committee, it was submitted to the corresponding authorities on October 31, 1924. A copy of this pamphlet, which is entitled, "The A, B, C, of Filipino Nutrition," is attached herewith.

SUMMARY OF FACTS

1. Beriberi is prevalent in the Philippines—its mortality rate is increasing in the provinces while it is diminishing in the City of Manila.

2. The decrease in the mortality from beriberi in the City of Manila is related to the discovery and extensive use of *tikitiki* extract since 1912.

3. The remarkable increase of the mortality from beriberi in the provinces coincides with the great demand for laborers and the establishment of modern rice-mill machinery.

4. The predominating type of beriberi is the infantile; among adults, the "dry type."

5. The high mortality from beriberi is almost entirely due to the infantile type, constituting 91 per cent of the total deaths from this disease.

6. The amount of rice imported into the Philippines is steadily decreasing; at the present time, it is only 5 per cent of the total; while 15 years ago, more than 26 per cent of the rice consumed in the Islands was imported.

7. About 98 per cent of rice imported comes from the French East Indies and Siam.

8. Many different varieties of rice are produced in the Philippines.

9. A great proportion of this rice is overmilled, the old hand-pounding method having been substituted by the modern rice-milling methods.

10. The chemical analysis of samples of native rice shows that our rice can be favorably compared with that of other countries, e.g., India, Saigon, the United States,

11. The standardization of rice thru the determination of its P_2O_5 content, while possibly applicable to a great proportion of the native varieties, cannot, be used for all. The P_2O_5 content is variable, depending not only on the variety of rice and its age, but also on the degree of whitening and other factors.

12. The degree of unpolishing, as determined by the microscopical method, does not keep a close relationship with the P_2O_5 content.

13. Neither the P_2O_5 content nor the degree of unpolishing can be considered safe indication of the vitamin B content of any given sample of rice.

14. Transportation and storage have little influence upon paddy-rice, but do have a definite effect on milled rice.

15. Overmilled rice stands storage better and for a longer time than undermilled rice; deterioration is evident sooner in the former (within two months) than in the latter (from three to six months).

16. Deterioration is due to the growth of mold and the development of weevils and beetles which destroy the mealy layer, the kernel, and the germs.

17. Deterioration affects not only the physical appearance of the rice, but also the chemical composition, especially its P_2O_5 content, and its nutritive value.

18. The figures available indicate that imported rice causes six times as much beriberi as does native rice.

19. There is no close relationship between rice production and the mortality rate in the various provinces, or between the number of rice-mill and beriberi mortality.

20. The people prefer to eat polished overmilled rather than undermilled rice.

21. The figures available seem to indicate that the common diet of families with beriberi cases among their members is not at all lacking in vitamin B.

22. *Tikitiki* production is insufficient; it is estimated that the total possible maximum monthly production under present circumstances would be sufficient to treat adequately only 20 per cent of the children dying at the present time of beriberi.

23. Evidence is lacking concerning the value of *tikitiki* extract for adult beriberi in the Philippines.

24. A practical method for standardizing *tikitiki* extract is not available at the present time. If its preparation and sale by pharmacists is to be permitted, a standard method of preparation should be required. Authority to inspect such plants should be given to qualified officials.

RECOMMENDATIONS

1. Extensive and persistent educational propaganda concerning the value and necessity of a balanced diet should be continued thruout these Islands, especially in those provinces where beriberi is most prevalent.

2. To secure the widest possible dissemination of the proper information, especially to the people most commonly affected by the disease, the propaganda should be concentrated first on the public schools.

3. The manuscript prepared and approved by the Committee, entitled "The A, B, C, of Filipino Nutrition", should be published and used as the basis of reading lessons, lectures, and conferences in the schools.

4. The campaign for the production of a larger proportion of food, rich in vitamin B, should be systematically and persistently

maintained under the direction and supervision of the Bureau of Agriculture.

5. Encourage the production of native rice to the point where it be possible to eliminate completely all importations.

6. Encourage the consumption of undermilled rice.

7. Regulate the rice-mills and places where rice is stored; their inspection and supervision may be placed under the Bureau of Commerce and Industry.

8. Increase the production of *tikitiki* extract.

9. Alcohol used in the preparation of *tikitiki* extract should be exempted from tax.

10. If the studies and investigation on beriberi are to be pursued, an appropriation necessary for the work should be approved—\$2,000 is estimated to be enough for each year.

11. Investigations on beriberi should be continued.

12. It is recommended finally that upon the discharge of this Committee, its work being completed, another beriberi Committee be forthwith constituted. Some of the specific functions of the new committee should be, in the opinion of this Committee:

(a) To obtain accurate and exhaustive information upon the relative keeping qualities of under and overmilled rice under the actual conditions of transportation and storage.

(b) To study methods of production, handling, treatment (milling), transportation, and storage with a view to recommending changes which may be applicable practically and may lead to a restriction of the deterioration of rice with regard to its nutritive value up to the time of its consumption as food.

(c) To devise a method or methods by which rice may be graded according to its relative nutritive value.

(d) To prepare literature giving information concerning beriberi. Five types of information bulletins should be written and adequately distributed:

(d¹) *For the earlier school grades.*—This should be written in the simple language of the first reader in several lessons should take up first the story of rice, then its relation to the disease, and finally the need of the body for a mixed diet.

(d²) *For the older people in the provinces, especially the deficiently educated members.*—These bulletins should be translated into the vernacular of the several provinces where beriberi is prevalent.

(d³) *For the older children in the schools.*—The language and scope of this should follow, in general, that of the account prepared for primary grades, but expanded in accordance with the broader capacity of the upper grades.

(d⁴) *For provincial and municipal officials.*—This should meet the needs of those persons who, under present circumstances, are required to make

diagnoses of the causes of death. The language should be plain and should tell, as adequately and clearly as possible, what is beriberi and what is not.

(d⁵) *For physicians.*—This should be an adequate treatise upon beriberi, giving a clear account of the disease: the latest reliable information regarding its cause, its types, their clinical manifestations, differential diagnoses, and treatment. This should not represent the opinions of a single individual, but should be a digest of all the information that may be possible to collect from all reliable sources.

(e) To continue the study of the etiology of beriberi and the preparation and standardization and control of *tikitiki*, to keep in touch with such work done elsewhere so that the latest information of value may be constantly available.

APPENDIX A.—Result of rice examinations

No.	Province	Physical condition of rice	Degree of unpolishing	P ₂ O ₁
			P. ct.	P. ct.
1	Pampanga	Grains white, clean, whole with rice weevil present	13	0.38
2	do.	Grains partly broken, polished from red rice, grains attacked by rice weevils	22	0.46
3	do.	Grains partly broken, white, attacked severely by weevils and beetles	21	0.42
4	do.	Partly polished red rice much-broken grains, with few rice weevils	23	0.56
5	do.	Grains broad, short, partly broken with many weevils and worms	18	0.46
6	do.	Small, long, white grains, head clean, long, and thin	11	0.36
7	do.	Dirty with insect web and broken	21	0.42
8	do.	White, partly dirty with mites	18	0.44
9	do.	Mites present, polished from red rice, partly broken grains, dirty	21	0.46
10	do.	Dirty with mites and rice weevils, broken, white grains noduled with insect web, no germs	20	0.46
11	do.	Clean, white rice with grains partly broken	12	0.49
12	do.	Clean, partly broken grains, no insects	11	0.48
13	do.	<i>Pinawa</i> , mixed red and white unpolished rice, dirty with mites, and partly broken, few germs present	44	0.61
14	do.	<i>Pinawa</i> of white rice mostly broken and dirty	24	0.42
15	do.	Grains partly broken, red rice, dirty with rice weevil	34	0.47
16	do.	White grains, small and clean and partly broken	13	0.46
17	do.	Dirty, mouldy and mold confined to the polishings, fermenting evolving odor similar to that of toyo; glutinous soft with some grains. Grains are easily crushed with fingers into fine powder. Degree of polishing is hard to estimate due to molds and to disintegrating quality of rice. New rice	38	0.51
18	do.	New rice, dirty unpolished, long and partly broken grains few germs present	33	0.42
19	do.	White, clean, mostly whole grains, no germs	19	0.47
20	do.	New rice, partly polished, slightly broken with 15 per cent nucleus present	36	0.45
21	do.	Round, broad partly broken grains, few mites present, dirty	27	0.39
22	do.	Polished, head, and clean, no germs remaining	15	0.40
23	do.	Very dirty with plenty of mites, partly polished, broad, round grains and partly broken	25	0.41
24	do.	Attacked by mites and rice weevil	26	0.44
25	do.	Polished rice, clean and partly broken, no germs remaining, long and thin grains		0.39
26	do.	Polished rice, clean and partly broken, no traces of germ remaining	5	0.16
27	do.	White, polished, clean, broad and short grain partly broken		0.40
28	do.	Partly polished, broad and short grains, mites present, germs gone	31	0.39
29	do.	<i>Pinawa</i> , mixed white and red rice, broken, dirty and attacked by rice weevil and rice beetle, also mites present, few germs remaining	34	0.50
30	do.	<i>Pinawa</i> , from red rice, clean partly broken, mites present, few germs present. Better than 5th class	29	0.49

APPENDIX A.—Result of rice examinations—Continued

No.	Province	Physical condition of rice	Degree of unpolishing	P. O.
			P. ct.	P. ct.
31	Pampanga	White, clean rice partly broken, partly damaged by rice weevil.	31	0.39
32	do.	Glutinous, white, partly broken, mixed with a little non-glutinous rice, no germs.	8	0.21
33	do.	Partly polished rice, partly broken white grains, large and broad, severely attacked by weevil and beetle. Webs on rice.	42	0.45
34	do.	Partly polished white and red rice, dirty broad and short attacked by rice weevil, few germs remaining.	39	0.50
35	do.	White, partly broken grains, broad and large grains.	13	0.43
36	do.	Abundant mites, grains partly broken, partly attacked by rice weevil.	34	0.44
37	do.	White, clean, slightly broken, new and mixed with un-matured grains.	12	0.51
38	do.	Old rice mostly broken grains partly polished mites present, grains partly attacked by rice weevil.	27	0.53
39	do.	Polished rice from red rice large grains about 50 per cent broken, clean but with few mites 5 per cent germs remaining.	15	0.34
40	do.	White, clean, mostly broken grains no germs remaining.	12	0.27
41	do.	Small grains, and mostly whole.	20	0.44
42	do.	Long and narrow grains, clean, partly broken.	12	0.43
43	do.	Long and narrow, clean whole few broken same as 42 only head.	13	0.45
44	do.	Partly broken grains, round and broad, partly polished.	30	0.48
45	do.	Mites and beetle present, old badly, attacked by beetle. Some un-matured grains.	21	0.41
46	do.	Dirty, red rice, grains mostly whole.	16	0.45
47	D. H. O. Albay	<i>Macan piña</i> —clean, white, long and thin grain with few broken, sample received packed in small bottle, 25 per cent nucleus present.	20.5	
48	do.	<i>Bacao</i> , first class, partly polished, some grains mouldy some from red rice partly broken, packed in small bottle, 15 per cent nucleus present.	29.8	
49	do.	<i>Bacao</i> , partly polished mixed red and white rice, partly broken, some grains mouldy, packed in small bottle, 35 per cent nucleus present.		
50	D. H. O. Rizal	<i>Leon Banaag, Flores, Malabon</i> clean, white rice, grains small and long, wholly head. No insects, no dusts.	5.75	.35
51	do.	<i>Jose Teodoro, Baconu-bayan, Navotas</i> , clean, white rice, grains long and thin wholly head. No dust. New rice. No insect. No nucleus remaining.	10.25	.26
52	do.	<i>Leonardo Santos, S. Jose, Navotas</i> , clean white rice, partly broken, new rice, 5 per cent nucleus present.	9	.37
53	do.	<i>Valeriano Nava, S. Jose, Navotas</i> , clean, white rice about one-half grains, broken.	5.75	.30
54	do.	<i>Rufino Borja, S. Jose, Navotas</i> , clean, polished rice from red rice partly broken, long and thin grains, new rice, 20 per cent nucleus present.	14.0	.29
55	do.	<i>Juana San Luis, Sipak, Navotas</i> , white, clean, polished rice, mostly broken grains; new. 10 per cent nucleus present.	10.90	.34
56	do.	<i>Luis Banson, Almacin, Navotas</i> , white rice, small and thin, grains mostly broken.	5.5	.28
57	do.	<i>Pedro Juan, P. Burgos, Poblacion, Makati</i> , white well polished rice, partly broken grains, mites present and with some grains mouldy.	8.75	.38
58	do.	<i>Lauriana Romoillo, P. Burgos Poblacion Makati</i> , white, polished rice, grains broken, mixed with some un-matured grains.	6.40	.39
59	do.	<i>Norberto Ventura, P. Burgos, Makati</i> , same as No. 9.	8.50	.38
60	do.	<i>Mercedes Mariano, P. Burgos</i> , white, same as No. 10. 10 per cent nucleus present.	7	.31
61	do.	<i>Elena Hernandez</i> , white polished rice, small partly broken grains. Five per cent nucleus present.	5.25	.45
62	do.	<i>Irene Leonardo</i> , white, same as (61). Twenty per cent nucleus remaining.	6	.15
63	do.	<i>Abelina de Leon</i> , white, same as Nos. 61 and 62, new rice. Twenty per cent nucleus present.	6.5	.44
64	do.	<i>Lolita Espiritu</i> , white, same as No. 63; new rice. Twenty per cent nucleus present.	7.9	.44
65	do.	<i>Eladia Solan</i> , polished mixed white and red rice grains partly broken, with some un-matured rice grains and few pebbles, new rice. Twenty per cent nucleus present.	10.30	.43
66	do.	<i>Gerontina Watson</i> , white clean same as No. 63; 25 per cent nucleus present.	6.0	.44

APPENDIX A.—Result of rice examinations—Continued

No.	Province	Physical condition of rice	Degree of unpolishing	P ₂ O ₄
			P. ct.	P. ct.
67	D. H. O. Rizal	<i>Crispina Santos</i> , white dirty rice grains partly broken with several unmaturred grains and pebbles, few mites present. Thirty-five nucleus present.	7.65	.13
68	do	<i>Eufracia Mallari</i> , new rice same as No. 63.	6.25	.41
69	do	<i>Marcelina Guinto</i> , new white polished rice, long and thin, clean. Twenty per cent nucleus present.	6.50	.34
70	do	<i>Lucia Lorenzo</i> , white, clean, new, same as No. 63. Twenty per cent nucleus present.	7.75	.13
71	do	<i>Tañono, Malabon</i> , white, polished rice, mostly broken, with few mites. Five per cent nucleus present.	7.65	.36
72	do	<i>Baritan</i> , white, clean, polished rice, partly broken. Five per cent nucleus present.	6.75	.37
73	do	<i>Dampalit</i> , white, clean, polished rice, mostly head, new rice but with few mites.	6.75	.33
74	do	<i>Plaza Rizal</i> , white, polished rice, partly broken with few dirt. Five per cent nucleus present.	6.0	.38
75	do	<i>Tonsuya</i> , white polished rice, same as No. 74.	5.65	.37
76	do	<i>Plaza Rizal</i> , white polished rice, same as No. 74. Ten per cent nucleus present.	5.65	.38
77	do	<i>Maysizo</i> , white, clean, polished rice, grains mostly whole, semi-transparent, with few mites. Thirty per cent nucleus present.	7.50	.43
78	do	White, well polished rice, same as No. 77, with rice weevil (flat head) and mites. Weevil eggs also present. Dust powder of polishing present. Twenty per cent nucleus present.	8.25	.28
79	D. H. O. Samar	<i>B. B.-T. C. S.</i> Partly polished white rice, few grains broken and unmaturred. Comparatively clean. Five per cent nucleus present.	9.90	.44
80	do	<i>T. C. S.-K. K. Pinaua</i> mixed white and red rice partly broken; few pebbles present. Ten per cent nucleus present.	18.90	.48
81	do	<i>Y. B. S. Macan</i> , white polished rice partly broken, long, thin grains with few mites present. Five per cent nucleus present.	7.0	.39
82	do	<i>Saigon</i> , white well polished rice, partly broken and partly attacked by rice weevil, clean.	5.75	.31
83	do	<i>Lacia M. M.</i> Red rice, partly polished, grains broken and wrapped with tikitiki powder mites present abundantly. Thirty-five per cent nucleus present.	31.30	.57
84	do	<i>T. C. S.-A. X.</i> partly polished rice from red rice, grains mostly broken mixed with immature grains. Insect webs holding several grains.	9	.41
85	do	<i>Y. B. S.-H. H. Bayambang</i> , partly polished white rice, partly broken grains. Few mites present. Long and thin grains. Ten per cent nucleus present.	39.75	.49
86	do	<i>B. Y.-No. I.</i> Clean well polished white rice, long and thin grain, partly broken with few unmaturred seeds. No nucleus remaining.	8.5	.43

THE A, B, C OF FILIPINO NUTRITION

Our bodies are machines that are working all the time. They stop only when we are dead. To keep these machines going, food is needed.

Uses of food.—Food supplies building materials for the growth of the different parts of the body while young and for the maintenance and repair of those parts in the adult ones. It supplies energy for the various activities of the internal organs, which are necessary to sustain life, and for the performance of work.

Constituents of food.—The food we eat is composed of different nutrients; namely proteins, fats, carbohydrates, inorganic salts (as calcium, iron, phosphorus, etc.), and water. Combined with these in some unknown way are the so-called "*vitamins*."

Proteins are the principal materials used for the construction and repair of muscle and other tissues. It is abundant in egg, meat, fish, mongo, and peanut. *Carbohydrates* and *fats* supply the fuel-need of the body. Fat is a more concentrated source of heat than carbohydrates, but it is more expensive. The cereals and root-crops are excellent sources of carbohydrates. *Inorganic salts* are essential in the formation of blood and bones. Fruits and vegetables are rich in inorganic salts. Water is necessary for cell construction, for the blood, and other fluids of the body.

The *vitamins* are accessory food factors, the exact nature and rôle of which are still unknown. They are probably to the body what oil is to a machine. The oil does not supply fuel to the machine, but without oil the machine will not run smoothly. Lack or insufficiency of vitamins produces different nutritive effects on the body. At the present time the vitamins are classified into vitamin A, B, and C. Lack of vitamin A in the food produces an eye disease known as xerophthalmia and rickets; lack of vitamin B, beriberi; and lack of vitamin C, scurvy. Vitamins A and B are not destroyed in the ordinary process of cooking, while vitamin C is easily destroyed by heat. The fruits and vegetables are good sources of these vitamins.

Besides the nutrients that the body uses, it is also essential to take roughage, i. e., undigestible matter which gives bulk to

the feces and thus helps prevent constipation. The fruits and vegetables contain plenty of undigestible material which serves as roughage.

What Food Shall We Eat?—The substances needed by our bodies are found in both animals and plants. “We find some nations living principally on animal diet, and some animals living on animal food exclusively; others live on vegetable material alone, and some nations live principally on vegetable food. That shows that either of the two is feasible,—that persons can live either on vegetable food alone or on animal food alone. If one should ask which is the better way, it is generally admitted that a mixed diet is the best for mankind. It has been shown that those nations which subsist on a mixed diet, taking both animal and vegetable food, have accomplished most in the way of progress. Those nations which live exclusively on animal diet, such as the Esquimaux, or the peoples to the far south where vegetable material is rare and who live almost exclusively on the fish and animals which they hunt and kill, have not accomplished very much in the way of progress. On the other hand, the peoples of India, China, and Africa live mostly on a vegetable diet, and these nations have not accomplished very much either, in the way of progress. It is possible to live in either way; but as a whole, physiologists have decided that a mixed diet, combining the two forms of food material, is the best to develop the mental faculties of the highest grade.”

There is no single food material, (from either plant or animal), that contains all the necessary nutrients in the right amount. So, the use of more than one kind of food is absolutely indispensable. Milk is the best single food that is found in the world, and the milk of a healthy mother is the food God gives to a baby. Mothers’ milk, however, is good only to a baby. It contains too much protein and too little iron (one of the inorganic salts) to constitute the exclusive diet of grown-up persons. Next to mothers’ milk are the milk of goat, cow, and carabao. Milk, however, is an excellent supplement. So it is very desirable to use it as part of the diet. The Americans, Dutch, English, French, and Germans—all progressive peoples—are great users of milk and other dairy products.

Since there is no single food material that can supply all the needs of the body, it is our duty to ourselves to select wisely the food we eat. The diet which supplies all the needs of the body is called a *balanced diet*. A *balanced diet* then is a com-

bination of food materials containing protein, fats, carbohydrates, inorganic salts, water, and vitamins in the right amount. The amount of each of these substances needed by a person will depend on his age and the kind of work he is doing. A growing person needs plenty of protein; while one who is doing hard muscular work, plenty of carbohydrates.

What kind of food and how much of each do we need to eat?— It is very difficult to answer this question definitely. If we have plenty of food as had our great-grandfathers who are said to have lived in the Garden of Eden, we shall not have this problem to solve. Under those conditions, instinct would be our best guide. Since that mythical time, however, the world has changed very much. Nature is not so kind to us as she was to our great ancestors. Our food supply is limited. We can not always get what we want. Often we have to eat not what we like, but what is available. Hence, it is very important to know which food to select.

From the table given, we can easily see which food materials are good sources of a needed nutrient; so we can easily select our food as to quality. This selection will, of course, depend on the cost and the supply of a given commodity. Regarding the amount needed, the best guide is our stomach. Eat until we are satisfied, or until just a little bit more will make us satisfied. *Never overeat.*

In combining foods for a diet, the following points must be considered:

1. *Protein foods:* (a) Meat, fish, milk, egg, peanut, mongo, and others are the most important protein foods, because they contain proteins that can be used to special advantage by the body. (b) Milk can not be satisfactorily replaced by any other food in the diet of growing children. (c) Some of these foods are rich in inorganic salts; for example, meat in iron, milk in calcium, and peanut in phosphorus. (d) Some of them are good sources of vitamin A and B.

2. *Carbohydrate foods:* (a) Rice and corn are the staple of the diet of the majority of us (Filipinos); and though these cereals also contain proteins, their proteins are of such kinds that they have to be supplemented by meat, fish, etc. (b) If rice is not polished, it also supplies vitamin B or anti-beriberi vitamin. (c) Sugar and sugary foods are good sources of fuel for the body.

3. *Fat foods:* (a) Fat foods are more expensive than carbohydrates and are concentrated fuel foods. (b) In tropical countries like the Philippines, the need for fat is not so great as in cold countries like Greenland. (c) Some of the fat foods, like nuts and butter, also contain vitamins.

4. *Inorganic salts, vitamins, and roughage.*—Fruits and vegetables are the best sources of all of these.

5. *Water.*—The foods we eat contain water in different amounts. This substance is not considered here because the amount is small when compared with the water we drink and use in cooking. We must, however, be sure that the water we use, especially for drinking, is clean and free from germs. Surface water should be boiled before drinking.

So the rule is: *Be sure that the food we are eating contains all the needed nutrients and then eat until just a little bit more will make us satisfied. Always have vegetable and fruits in our meals.*

BERIBERI

In the Philippines, many people are not taking a balanced diet. This is shown by the frequent occurrence of beriberi.

Beriberi is a disease which is due directly or indirectly to the effect of an unbalanced diet on the human machine, i. e., to deficiency of vitamin B in the food.

Symptoms.—We may know that a person has beriberi by means of the following symptoms: He may feel pain in the limbs, find some parts of his body swelling, or his legs paralyzed. He may feel extremely weak also. As the disease progresses, the swelling may extend in size and increase in the number of places swollen. He may be completely paralyzed and find difficulty in breathing.

How to prevent beriberi.—This disease can be easily prevented by observing the following rules:

(1) Always eat a well-balanced diet.

(2) Persons with beriberi, especially pregnant women, should receive medical attention.

(3) Mothers with beriberi should always consult a physician before nursing their babies.

Good sources of vitamin B.—The following food materials are rich in vitamin B: milk, unpolished rice, eggs, yeast, brain, cabbage, chick-pea (*garbanzos*), lettuce, liver, mongo, sprouted mongo (*togue*), potato, sweet potato, sweet potato leaves, *paayap*, papaya, peanut, soy-bean (*balatong*), sugar-pea (*Aguisantes*), sweet-bread, tomato.

SOME FILIPINO FOOD MATERIALS

This table gives a list of the food materials commonly eaten by the Filipinos. A cross (+) indicates the nutrient in which a given food is rich. The absence of a cross (+), however, does not show that a food does not contain the nutrient. It merely means that the food is not considered a good source of it. A zero (0) indicates the absence of the nutrient. A dash (—) indicates that it is not known whether a food is rich or poor in a nutrient.

Foods	Pro- teins	Fats	Carbo- hy- drates	Inor- ganic- salts	Vitamins		
					A	B	C
CEREALS							
Bihon.....	+		+				
Corn (yellow).....	+		+		+	+	
Macaroni.....	+		+				
Mique.....	+		+				
Misua.....	+		+				
Rice (polished).....	+		+		0	0	0
Rice (unpolished).....	+		+		+		+
MEAT AND FISH							
Butter.....		+			+		
Cheese.....		+			+		
Egg (all kinds).....	+	+	+	+	+	+	+
Fish (all kinds).....	+			+	+	+	
Meat (all kinds).....	+	+		+	+	+	
Milk (all kinds).....	+	+	+	+	+	+	+
ROOTS							
Carrot.....			+		+	+	+
Casava.....			+				
Parship.....				+	+	+	
Potato.....			+			+	+
Radish.....			+		—	—	—
Sago.....			+				
Sweet potato.....			+		+	+	
Taro (gabi).....			+		—		—
Turnip.....			+	+		+	
Yam (tugi).....			+		—	—	—
Yam bean (sincamas).....			+		—	—	—
Ubi.....			+		—	—	—
VEGETABLES							
Ampalaya (Tag.), amargo (Sp.-Fil.), Parria (Il.).....				+	—	—	—
Banana flower bud.....				+			
Bottle gourd, upo (Tag.) tabungao (Il.).....				+			
Cabbage.....				+	+	+	+
Cangcong (Tag.), Balangag tangcong (Vis.).....				+	—	—	—
Caturay (Tag.), gauay-gauay (Vis.), catuday (Il.).....				+	—	—	—
Celery, kinchay (Tag.).....				+		+	
Coriander, unsuy (Tag.) colantro (Sp.), onsoy (Chin.).....				+	—	—	—
Cowpea, sitao (Tag.), utong (Il.).....				+	—	—	—
Endive, escarola (Sp.).....				+	—	—	—
Fern, pacó (Tag.-Il.).....				+	—	—	—
Garlic.....				+	—	—	—
Horse-raddish tree, malungay (Tag.), marungay (Il.), balungay (Vis.).....				+			
Leek, cuchay (Tag.-Il.), puerro (Sp.).....				+	—	—	—
Lettuce.....				+	+	+	+
Mustard, mostaza (Sp.-Fil.).....				+	—	—	—
Onion (young).....				+		+	+
Parsley, perejil (Sp.).....				+	—	—	—
Passao (Tag.), saluyot (Il.).....				+	—	—	—
Pechay (Tag.-Il.-Vis.).....				+	—	—	—
Pepper.....				+	—	—	—
Pigweed, colites (Tag.-Vis.) calunay (Il.).....				+	—	—	—
Spinach.....				+	+	+	+
Squash.....				+	—	—	—
Sweet potato leaves.....				+	+	+	+
Uray babai (Tag.).....				+	+		

Foods	Pro- teins	Fats	Carbo- hy- drates	Inor- ganic salts	Vitamins		
					A	B	C
FRUITS							
Ampalaya (Tag.), amargoso (Sp.-Fil.), parria (Il.)			+	+	—	—	—
Avocado or alligator pear		+	+	+		+	
Banana			+	+			+
Batao (Tag.), parda (Il.)	+		+	+	—	—	
Bottle gourd, upo (Tag.) tabungao (Il.)			+	+			
Breadfruit, camansi (Tag.) colo (Vis.), pacac (Il.)	+		+	+	—	—	
Cabel (Tag.)							+
Calamansi or calamondin (Tag.) limonsito (Bicol-Sp.)							+
Chick-pea, garbanzos (Sp.-Fil.)	+		+	+	+	+	+
Chico (Sp.-Fil.)				+	+	+	+
Coconut				+	+	+	+
Coffee			+			+	
Common bean, habichuela (Sp.)	+		+	+			
Cow-pea, sitao (Tag.), utong (Il.)	+		+	+	—	—	—
Cucumber			+	+	—	—	+
Egg-plant	+		+	+			
Guava, bayabas (Tag.), guayaba (Sp.), bayabas (Bicol)				+	—	—	+
Horse-raddish, malungay (Tag.)	+		+	+			
Lansones				+			
Lima bean, patani (Tag.)	+		+	+	—	+	—
Limon (Sp.-Fil.), dayap (Tag.)						+	+
Maholo (Tag.), camagon (Tag.-Bicol), amaga (Vis.), talang (Pamp.)				+			
Mango				+			
Mongo	+		+	+		+	
Narangita or sintonos (Tag.)							+
Orange juice						+	+
Papaya	+		+	+		+	
Papaya			+	+	+	+	
Peanut	+	+	+	+	+	+	
Prunes				+		+	
Santol (Tag.-Vis.-Il.-Bicol)				+	—		—
Soy-bean, balatong (Tag.)	+		+	+	+	+	
Sponge gourd, patola (Tag.) cabatiti (Il.)			+	+	—	—	—
Sprouted mongo, togí (Tag.)	+		+	+	—	+	+
Squash				+	—	—	—
Sugar-pea, guisantes (Sp.-Fil.)	+		+	+	+	+	+
Tomato				+	—	—	—
Wax gourd, condol (Tag.) tangcoy (Il.)				+			
Winged bean, sigidilla (Sp.-Fil.) paliang (Il.), calamismis (Tag.)	+		+	+	—	—	—
MISCELLANEOUS							
Bagoong (Tag.-Il.), guinamus (Vis.)	+			+			
Bamboo shoots (labong)			+	+			
Gulaman	+			+			
Honey			+			+	
Locust	+						
Sugar			+				
Tahuri	+	+					
Toyo				+			
Toqua	+	+					

YAWS CAMPAIGN IN BULACAN PROVINCE

By Dr. CRISTOBAL SANTIAGO

President, First Sanitary Division, Malolos, Bulacan

One of the most important steps undertaken by the Philippine Health Service in recent years toward the eradication of contagious diseases is the yaws campaign. Similar other campaigns had been undertaken in the Provinces of Ilocos Norte and Sulu, and all were attended with successful results. Because probably of the high price of Salvarsan and partly on account of the necessarily difficult technique in administering the drug three or four years ago, together with the unwholesome reactions that sometimes follow such injections, the campaign for this malady has not been undertaken earlier in the Provinces of Rizal and Bulacan where yaws are so prevalent. Now that the cost of the drug has gone down and the facility with which the injections can be given without going into the intricate ceremonies of making an incision into the skin to locate the vein where the drug is to be injected, and because of the experience that hospitalization of the patient after the injection is given is at all unnecessary, the higher authorities of the Health Service started to renew the campaign already for the eradication of the disease.

The object of this communication is not to bring forth any new discovery on the causes, pathology, and treatment of this disease, but to demonstrate the result of the campaign undertaken in Bulacan Province. In Bulacan, as in the Provinces of Rizal, Ilocos Norte, and Sulu, its geographical location influences a great deal in harboring the disease. It has been found out by former investigators that the towns bordering a salt-water body or where they are reached by the ebb and flow of the tide and where the principal industry of the people is fishing, the disease seems to become endemic in that locality. So the towns where yaws cases are mostly found in Bulacan Province are Malolos, Hagonoy, Bocaue, Paombong, and partly Santa Maria, because of the proximity of the barrios of these towns to Manila Bay and because of the fact that the fishing industry is one of the most important callings of its people.

Of course, this circumstance does not mean that fishing is the sole causative factor of yaws; but on account of the insanitary surroundings, poor water-supply, and most of all poverty, body cleanliness is almost always neglected and thus these people are predisposed to all kinds of skin diseases. It should also be noted that upon the investigation of the kinds of food these people usually take, it has been found that shellfish, such as crabs, oysters, and shrimps, from the most common staple food-supply.

The disease is probably transmitted to other persons more by direct contact than by any other means, for out of 350 cases treated in our clinic about 50 per cent came either from the same family or nearby relatives and neighbors, although isolated cases have been found in the interior of the towns with no history whatever of previous exposure to the disease. There seemed to be a preponderance of male patients than female, for out of 350 cases treated in the whole province, male patients constituted 57 per cent of all cases. The explanations are easy in this case, for men lead an outdoor life more than women do and are more exposed to physical injuries and skin diseases which are the starting-points of many of the primary lesions of yaws.

Most of the patients that came to our clinic were suffering from the infections type or secondary stage of the disease, and mostly found between the ages of one and 10 years, which constituted 51 per cent of all the cases. Our adult patients were mostly suffering from keratosis and bone lesions, who gave the history of having had yaws during childhood and adolescence. It is very rare to find the infectious type among adults, and our records show that this constitutes about 6 per cent of all our cases.

In this communication, the description of different stages of the disease is omitted as it is fully described in the textbook by Gastillani and by Doctor Gutierrez in the Monthly Bulletin of the Philippine Health Service, February issue. Suffice it to say, however, that we have come accross the three different stages of the disease in our clinic, and all of them presented characteristic lesions of yaws.

Our campaign began last October and the first town to receive the blessings of the free treatment was Malolos, the capital of Bulacan Province. As in other sanitary campaigns undertaken by the Philippine Health Service, difficulties were naturally encountered in the beginning before the people were convinced of the benefit that may be derived from such treatment. House-to-house visits were made by the presidents of sanitary divisions,

nurses and sanitary inspectors explaining and convincing the people of the miraculous cure of their malady after one or two injections. At first the people were afraid to submit themselves to the treatment on account of the severe reactions they usually experienced after the mixed antityphoid and anticholera vaccinations; but after displaying our efforts, we were able to convince about 30 patients to present themselves at the clinic. Under the direction of Doctor Gutierrez, the first of the series of injections made in Malolos was attended with encouraging results. Of the 30 patients that received the first injections, no undesirable reactions were noted except in four patients who had slight fever, vomiting, and slight pain over the joints an hour or two after the injections. These reactions were partly attributed to the escaping of the medicines outside of the vein and partly to the natural predisposition of these patients to the drug. A week after the injection was performed, the patients were again visited and to our satisfaction the ugly ulcerating surface of the infectious type was drying up. The bone lesions began to disappear, the thickening of the plantar surface of the feet and palms of the hands of those suffering from keratosis showed marked improvement. With the excellent result of this first series of injections, the people began to present themselves at our clinic voluntarily soliciting for treatment. So a regular yaws clinic was established in other municipalities where yaws cases were registered, such as Paombong, Hagonoy, Bocaue, and Santa Maria. One day of the week was set aside for the injections in a given municipality. Patients from the different barrios of the town came to this clinic on appointed days, disregarding the distance of their homes, just to receive the treatment. These patients were first prepared the day before the injection was to take place by giving them three drops of Fowler's solution in water to adults and a drop in a little water to children. The aim in giving this medicine is to find out the tolerance of these patients of any arsenical preparation, such as Neosalvarsan. In the afternoon a dose of magnesium sulphate was given according to the age of the patients, with liquid diet usually milk and coffee, in the evening and in the following morning. All these preliminary steps were strictly observed by us before any injection was given, although others asserted that they could be safely omitted, that is, the medicine could be introduced into the circulation without preliminary purgation and fasting, and not produce any serious after effects. So far, the most serious reaction that alarmed us was in the case of a

couple who soon after receiving the second dose, returned home and took a very rich meat broth, and instead of staying in bed as was advised by us did all the contrary, and consequently, a very severe headache, high fever, vomiting, and scanty urination were the results lasting for almost a week. This reaction may be attributed to the faulty elimination of arsenic, the principal component of Neosalvarsan. As all know, this drug is eliminated mostly through the kidneys and partly through the intestinal tract, the kidneys being over-taxed by the irritation produced by these proteins contained in the rich meat broth which these patients took soon after the injection, together with the irritation produced by the arsenic content of Neosalvarsan. These probably were the reasons why these patients had severe reactions on account of the arsenic accumulation in the body.

Clinically, the disease yielded after a single injection, and the cases that responded most to the treatment were the ones that had been suffering from the second stage of the disease. Like the observations of Doctor Gutierrez in Parañaque, the primary lesions treated in our clinic did not yield well to the treatment, that is, it required two and even three injections before the lesions finally healed up. Keratosis and bone lesions were also resistant to the drug, although marked improvements were noted after the second injection. Practically about 90 per cent of all the cases treated in Bulacan Province were clinically cured after one or two injections of Neosalvarsan. In Santa Maria, we have come across some patients suffering from tertiary syphilis and injections were also given. Cures came after the third injection. In Hagonoy, there were many cases of tropical ulcers that came with the yaws cases to our clinic and likewise were treated with Salvarsan injections. Although they did not respond so readily to the treatment, yet after some weeks, the ulcers were observed to be drying up. It was also noted that in Malolos, patients who came suffering with yaws in association with skin diseases, such as scabies, dhobie itch, etc., were cured of both ailment after the injections.

CONCLUSIONS

1. Salvarsan is the most effective drug for eradicating yaws.
2. Where occasion arises, the classic preparation for receiving the intravenous injection can be safely omitted.
3. Because of the immediate results derived from the treatment, we can be sure that cases of yaws in the Philippines may be soon eradicated thru an intensive and extensive campaign.

CONTROL OF WATER-BORNE DISEASES IN THE PROVINCE

By CONSTANCIO CAMOMOT, M.D., *Philippine Health Service*

By water-borne diseases in general we mean all those ailments the causative agents of which are transmitted by or live in the water either temporarily or permanently; and they include typhoid fever, cholera, dysentery, the diarrheal group of diseases and some of the parasitic worms. In a limited sense, however, we speak of water-borne diseases to include only typhoid fever, cholera and dysentery.

The control of water-borne diseases, as we understand them, can be outlined as follows:

1. Early notification of the cases.
2. Prompt and accurate diagnosis.
3. Search for the source of infection.
4. Sanitary measures including the following:
 - (a) Isolation of cases.
 - (b) Disinfection.
 - (c) Active curative treatment.
 - (d) Prophylactic treatment.
 - (e) Sanitary sewage disposal.
 - (f) Adequate water supply.

The *early notification* of the cases is obviously significant in that it diminishes the chances of the spread of the infection since it makes the health officer alert in instituting suitable steps as hereinafter signified.

The *prompt and accurate diagnosis* is important because it enables the health officer to attack the disease before it has spread in an epidemic form. We should call to our help all the available means to establish a diagnosis: the clinics and the laboratory. The health officer in a distant municipality does not usually have a ready access to a laboratory, not like his more fortunate brother stationed in the city or in some provincial capital; so, he who conducts campaigns far away in the barrios, should be guided exclusively by the signs and symptoms of his cases and depend for the interpretation of the same upon his clinical senses.

The search for the source of infection.—The public health officer differs from the private practitioner in a given locality in that the principal duty of the former is the prevention of diseases, while the latter takes care primarily of the curing of the patient. Once a case has been diagnosed as, or even only suspected for, a communicable disease, a class to which the water-borne diseases belong, the prime duty of the public health officer would be to find the source of infection in order to suppress or to control it at once, thus avoiding the possible spread of the malady before it is too late. He inquires for the spring, river or well from which the family of the sick derives the water for household use, and makes a survey of the sanitary conditions of the place. When this is done, he proceeds to give orders to disinfect the place or he disinfects it himself. It may not be enough to inquire about the particular water supply of the family of the sick, but also that of the neighboring families, before the origin of the infection can be determined; for, water-borne diseases can be transmitted directly from the spring, well, or river infected with the germs of the disease, or indirectly thru the mediation of second or of third persons who may be classed as carriers. It is, therefore, the duty of every officer to enter one house after another for two objects; (1) that of determining the source of infection and (2) that of discovering new cases of water-borne diseases, having in mind the possible occurrence of the disease thru contact with infected persons. In the barrios and in some central parts of a town, there are usually more than one well the water of which is used for drinking by the people; here, it is the duty of the sanitarian to inspect every well so used in order to determine its sanitary condition and to find the real or the probable source of the infection.

Rain water and the water from artesian wells are relatively safer than the dug wells, but they are not absolutely free and they at times may be the source of the infection.

Once the source of infection is discovered, the next step to do will be to determine the manner in which this source has become infected. Water-borne diseases have been considered synonymous to fecal—or excreta-borne diseases, because in the last analysis will be found that the origin of the water infection is the human excreta that has been carelessly thrown or washed into the water source or near it.

The isolation of cases.—The disease being communicable, the patient must be isolated, and if necessary the entire family

quarantined together with the sick. This is the opportunity of the health officer to use his best judgment, much common sense and tact; upon it, will depend whether or not the people will give him their full support. Each case merits individual attention. It is not necessary to quarantine all cases of dysentery and typhoid fever in the rural districts where the houses are not crowded. In cases of cholera, however, due to its seriousness and its greater danger of becoming rapidly spreading, the quarantine of the house with all its occupants is necessary. In any event, isolation or quarantine must be maintained until all danger of communicability has passed, or the case declared negative in three successive laboratory examinations made on different days, when such examinations are available.

The *disinfection* of the cases follows, or it may go hand in hand with isolation. All that has been used or even touched by the patient must be put aside, separated, and disinfected; his clothing, his bedding and utensils and all the excretions and secretions.

The *active curative treatment* must begin early, as the recovery of the patient means a great deal more for the physician or sanitarian than a fatal termination.

The *prophylactic treatment* of water-borne diseases is more important to the sanitarian in whose hands rests the hope of the community for the complete eradication of the disease than to the practicing physician in his private capacity. The remedial and specific prophylactic measures should therefore be applied.

The sanitary sewage disposal.—If the human excreta are properly cared for; that is, if, instead of throwing them carelessly on the ground, anywhere around the houses or near the rivers, they are adequately disposed of, if the people in the towns, especially in the barrios, would learn to use sanitary closets that are animal-and insect-proof, the control of water-borne diseases would not be so difficult; for, if the factor of fecal contamination is eliminated, all waters from any source would be rendered much safer for household use in so far as water-borne diseases are concerned. In the small towns and barrios, a cheap but sanitary means of sewage disposal has been evolved. I refer to the Antipolo system of closet. Bulletin No. 17 of the Philippine Health Service gives a detailed description as to how the Antipolo system of toilet should be constructed and kept in a good working condition. Errors and carelessness in the construction of the Antipolo toilet have resulted in undesirable

effects. If the pit is not spacious enough, it will soon be filled with the human excreta, and it will be necessary to dig a new pit shortly after the first construction, a work which naturally entails to the owner an additional expense. If the hole of the seat is not well covered at all times when the closet is not used, or if the top of the ventilating pipe is not properly screened, animals and insects will easily gain entrance into the pit containing the fecal matter, the insects breed in it and thereby favor the multiplication of disease-producing germs. The Antipolo system of toilet must be built according to the rules set forth by the Philippine Health Service if it is destined to be a safe method of sewage disposal and not a hive of insects and dangerous bacteria.

The adequate and clean water supply.—The control of water-borne diseases cannot be complete without an adequate water supply. We must have a reasonably pure and safe water supply for drinking purposes and for other domestic uses, that should be free from disease-producing germs. Such a water supply can be had in rural districts as well as in cities if there is a combined effort on the part of all to secure it.

In conclusion, I wish to remark that no sanitary measure can be successful unless it is willingly accepted by the people. To this end, our efforts should be directed. Ignorance on the part of the sick or the attendant not to say the unwillingness to follow directions, has been a big obstacle in the fight to control water-borne diseases. Let us educate the masses and make them understand the importance of the teachings of sanitation, and we shall attain our desired goal.

MISCELLANEOUS

DECEMBER, 1925

ALBAY

The hookworm campaign was carried on during the month in the town of Libog, but owing to the very stormy and rainy weather there was a small attendance. Of 500 persons examined, 488 or 98 per cent had intestinal parasites of some kind; 277 or 56 per cent had hookworm; 354 or 71 per cent had ascaris; and 103 or 21 per cent had trichuris. Of the 100 cases of hookworm examined, 96 per cent were cured.

BATAAN

Intensive cholera vaccination were performed in the municipalities of Orion, Dinalupihan, and Hermosa where cholera occurred. Also the municipalities of Samal, Abucay, Balaña, Pilar, and Limay were thoroughly vaccinated and 90 per cent of the population were vaccinated in Orion, Dinalupihan, and Hermosa.

BULACAN

The cholera situation gradually showed improvement. Malolos and Calumpit Hospital were closed, leaving only Hagonoy. The health barometer shows the corresponding decline in death rate.

CAGAYAN

Clean-Up-Week in the province, with the exception of some municipalities was observed with enthusiasm by the people and authorities. From October the sanitary personnel have been instructed to enforce strictly the sanitary ordinances, specially the cleaning of premises, construction of latrines, and pig-pens, specially in the isolated barrios and remote places.

CAMARINES SUR

At the beginning of the month a convention of municipal presidents and treasurers took place in Naga lasting three days. During the convention, the district health officer, Dr. B. P. Caro, delivered a lecture in which a review of the sanitation work in Camarines Sur was made, pointing out the salient points in which the sanitation of the past differed from the present with still more differences to be expected in the future, provided that the program which the office intends to adopt be followed, this depending largely upon the funds available.

CAPIZ

During the month intensive anticholera vaccinations were performed in order to prevent the outbreak of the disease. Immunization of adults and children against cholera, and later against typhoid were performed.

CEBU

Medical examination of school children in the municipality of Cebu was continued by the assistant to the district health officer, Dr. Cesar Filoteo, who arrived in Cebu on December 21, from a two months training in Culion Leper Colony.

Leper Detention Camp.—Nine clinically and bacteriologically positive lepers were admitted and two negatives were paroled during the month.

In compliance with the letter received from the Central Office, Dr. Cesar Filoteo, in addition to the duties assigned to him as assistant to the district health officer, was assigned to take charge of the administration and treatment of the leper detention camp, under the supervision of the district health officer.

Anticholera and antitypoid vaccination campaigns were continued during the month and a total of 12,769 injections were performed during November, with 2,170 negatives and 3,519 positives, among those inspected.

ISABELA

A campaign against yaws was conducted in the municipality of Ilagan. The Eastern part of the poblacion was found infected. Cases were of different ages of a year duration. Treatment had been administered by Dr. I. Villarica, district health officer, with neoarsphenamine. About 37 persons were treated and after second injection more than one-half recovered.

LEYTE

Sanitary inspector H. Aldana of La Paz, S. Bingjoy of Dulag, B. Mercado of Tanauan, and T. Pedrosa of Palo were ordered to Burawen for a sanitary campaign.

NUEVA ECIJA

Several school children in Peñaranda and Papaya were with goiter were benefited with syrup of ferrous iodide.

Several cases of cholera were registered in Cuyapo, but propagation of the disease to another place was instantly checked as a result of the campaign made.

ROMBLON

District Inspector Aycardo went to Sibuyan with voluntary vaccinators, sanitary inspectors, and two nurses for anticholera vaccination.

SORSOGON

During the month, 816 persons were vaccinated against cholera, typhoid, and paratyphoid, besides those performed by the sanitary personnel under the supervision of the presidents of sanitary divisions which have not been reported yet.

SULU

All the dispensaries visited during inspection in the southern islands were found in excellent condition. It is believed very necessary to have dispensary buildings made in accordance with modern plans. The uniformity of the equipment of all dispensaries has been noted which gives a very good impression to the community, yet the dispensaries are still in need of many things.

ZAMBOANGA

One thousand two hundred ninety-two antismallpox vaccinations were performed during the month of November.

Passengers arriving at Zamboanga from any port were given the inoculation of mixed cholera and typhoid vaccine. A general inoculation of the inhabitants was also made because of the presence of some isolated cases of typhoid fever in the city and barrios. One thousand six hundred eighty-one were vaccinated during the month.

GENERAL STATISTICS

(Unless otherwise stated, these statistics are for the month of December, 1925)

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1925 ¹

BY NATIONALITIES

Nationality	Population
Americans.....	8,134
Filipinos.....	285,881
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	312,138

BY HEALTH DISTRICTS

Health districts	Population
No. 1, Melsic.....	124,252
No. 2, Sampaloc.....	109,340
No. 3, Paco.....	78,546
Total.....	312,138

BY MUNICIPAL DISTRICTS

Municipal districts	Population
No. 1, Tondo.....	78,665
No. 2, San Nicolas.....	28,416
No. 3, Binondo.....	17,171
No. 4, Santa Cruz.....	50,892
No. 5, Quiapo.....	15,454
No. 6, San Miguel.....	4,320
No. 7, Sampaloc.....	38,674
No. 8, Port Area.....	4,692
No. 9, Intramuros.....	14,249
No. 10, Ermita.....	15,723
No. 11, Malate.....	16,047
No. 12, Paco.....	16,623
No. 13, Pandacan.....	5,709
No. 14, Santa Ana.....	6,503
Total.....	312,138

¹ Estimated on the basis of last figures published by the Census Office.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, DECEMBER, 1925**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maximum	Day	Absolute minimum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	761.15	24.8	31.6	1	20.1	6	27.7	28.0
11-20.....	60.88	24.2	32.0	11	17.3	20	27.2	27.6
21-31.....	63.64	22.9	32.7	15 31	16.0	22 23	26.0	26.6

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	Per cent		Per cent	
1-10.....	76.0	87.7	9	68.7	6
11-20.....	80.7	89.6	14	70.9	19
21-31.....	75.3	78.9	30	68.9	22

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maximum	Day
		Total	Daily total maximum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	N, NE	1,216.0	168.5	5	32.6	4.3	6
11-20.....	NE	1,090.0	148.0	20	27.3	4.8	20
21-31.....	E	1,529.5	211.0	21	40.0	4.6	24

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	42 40	8 20	6	0.5	2
11-20.....	42 15	8 25	20	8.4	4
21-31.....	63 45	8 10	27	0.0	0

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY OF MANILA

BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	16	11	27	101.50
Filipinos.....	622	607	1,229	50.65
Spaniards.....	1	1	2	12.05
Other Europeans.....	2	2	2	20.98
Chinese.....	34	31	65	42.89
All others.....	5	5	5	26.95
Total and average.....	678	652	1,330	50.20

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA

BIRTHS BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MESEIC:							
1. Tondo.....	174	164	338	14	10	24	362
2. San Nicolas.....	43	48	91	1	3	4	95
3. Binondo.....	27	25	52	1	3	4	56
Total.....	244	237	481	16	16	32	513
No. II, SAMPALOC:							
4. Santa Cruz.....	71	92	163	4	7	11	174
5. Quiapo.....	16	15	31	1	1	2	33
6. San Miguel.....	14	13	27	1	1	1	28
7. Sampaloc.....	114	111	225	10	9	19	244
Total.....	215	231	446	16	17	33	479
No. III, PACO:							
8. Port Area.....		1	1				1
9. Intramuros.....	20	28	48		2	2	50
10. Ermita.....	36	29	65				65
11. Malate.....	65	41	106	5	3	8	114
12. Paco.....	29	27	56	4	1	5	61
13. Pandacan.....	18	15	33	1		1	34
14. Santa Ana.....	9	4	13				13
Total.....	177	145	322	10	6	16	338
Grand total.....	636	613	1,249	42	39	81	1,330

Attended by physicians, living, 823; stillbirths, 21.

Attended by midwife, living, 127; stillbirths, 5.

Attended by family, living, 880; stillbirths 24.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	3		3	11.28
Filipinos.....	329	301	630	25.96
Spaniards.....	3	2	5	30.13
Other Europeans.....	1	1	2	20.93
Chinese.....	21	2	23	15.18
All Others.....	3	1	4	21.56
Total and average.....	360	307	667	25.18

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	133	90
Divorced.....		
Widowed.....	35	53
Single.....	259	205
Condition not stated.....	4	1
Total.....	431	349
Grand total.....	780	

Stillbirths.....	50
Number of deaths with medical attendance.....	445
Number of deaths without medical attendance.....	335

DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	116	111	9	7	243
1 year plus.....	24	20	1	1	46
2 years plus.....	10	9	1	1	21
3 years plus.....	5	6	2	1	14
4 years plus.....	8	6	1	1	16
5 to 9 years.....	11	5	2	1	19
10 to 14 years.....	5	7	1	3	16
15 to 19 years.....	16	11	10	4	41
20 to 24 years.....	10	6	3	5	24
25 to 29 years.....	8	15	3	2	33
30 to 34 years.....	8	11	4	3	26
35 to 39 years.....	21	13	6	2	42
40 to 44 years.....	10	8	1	2	21
45 to 49 years.....	27	16	3	1	47
50 to 54 years.....	13	6	2		21
55 to 59 years.....	15	9	2		26
60 to 64 years.....	20	8	4	2	34
65 to 69 years.....	9	7	2	2	20
70 to 74 years.....	6	7	2	1	16
75 to 79 years.....	4	5	1	1	11
80 to 84 years.....	5	7	1		13
85 to 89 years.....	4	8	1		13
90 to 94 years.....		2	1		3
95 to 99 years.....	5	1			6
100 years and over.....		3			3
Age not stated.....				1	1
Total.....	360	307	68	41	776

Two (2) male Filipinos, ages unknown, and one (1) female Filipina, about 50 years of age, and one (1) male Chinese, age also unknown, permanent residences all unknown, not included in the above table.

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH, AND MUNICIPAL DISTRICTS

Age groups	Health districts									
	No. 1, Melsic					No. 2, Sampaloc				
	No. 1 Tondo		No. 2 San Nicolas		No. 3 Binondo		No. 4 Santa Cruz		No. 5 Quiapo	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year...	40	38	9	5	3	4	9	16	3	3
1 year plus...	8	11	4	4	1		4	1	1	1
2 years plus...	5	2	2	3						
3 years plus...	1	4	1		1					
4 years plus...	6	2	1	1			2	1	1	1
5 to 9 years...	5	4	1							
10 to 14 years...	2	3	2	1	2		3	2	1	1
15 to 19 years...	6	3	2	1	1	2	3	2	1	1
20 to 24 years...	3	2	1		1		1	2	1	1
25 to 29 years...	2	3			1	2	1	2	1	1
30 to 34 years...	4	6	1	1	1	1	4	4	1	4
35 to 39 years...	7	2	2	1	1	1	1	2	1	2
40 to 44 years...	3	2	3	1	1	1	6	3	1	1
45 to 49 years...	9	3	1		1		3	2	1	1
50 to 54 years...	2	3	3		1	2	3	2	1	1
55 to 59 years...	5	2	1				2	2	1	1
60 to 64 years...	5	6	1	1	2		2	2	1	1
65 to 69 years...	3	3	1				2	2		
70 to 74 years...	3	2					1	2		
75 to 79 years...	2							1		
80 to 84 years...										
85 to 89 years...										
90 to 94 years...										
95 to 99 years...										
100 years and over...	4	1								
Age not stated...										
Total	132	103	31	13	15	11	41	46	11	9
Grand total	235		44		26		87		20	
									4	
									106	

TABLE OF DEATHS FROM ALL CAUSES AMONG RESIDENTS IN THE CITY OF MANILA, CLASSIFIED BY AGE GROUPS, SEXES, HEALTH, AND MUNICIPAL DISTRICTS—Continued

Age groups	Health districts No. 3, Paco												Total		Grand total	
	No. 8, Port Area		No. 9, Intramuros		No. 10, Ermita		No. 11, Malate		No. 12, Paco		No. 13, Pandacan					No. 14, Santa Ana
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		Male	Female
Under 1 year			2	5	1	2	11	10	8	6	3	1	1	116	111	227
1 years plus			2	2			1	4						24	20	44
2 years plus							1	1						10	9	19
3 years plus				1			1						1	5	6	11
4 years plus							1							8	6	14
5 to 9 years				1			1							11	14	25
10 to 14 years							1							5	6	11
15 to 19 years							1						1	16	11	27
20 to 24 years						1	1	1	1	1				10	6	16
25 to 29 years			1	1	1		1	2	1	1		1		8	15	23
30 to 34 years							1	2	2				1	21	13	34
35 to 39 years				1	1	1	1	2	2					10	8	18
40 to 44 years			1	1			1	4	5	1		1	1	27	16	43
45 to 49 years			1		1		1		1	1				13	6	19
50 to 54 years			1	1	1		2	2	1	1				15	9	24
55 to 59 years			1				2		1				1	20	8	28
60 to 64 years						1			1					9	7	16
65 to 69 years							1	1	1					4	5	9
70 to 74 years							1	1	1	1				6	4	10
75 to 79 years							1	3						4	5	9
80 to 84 years				2			1	3	1	1		1		4	8	12
85 to 89 years							1		1	1				2	2	5
90 to 94 years								1						5	1	6
95 to 99 years									1					1	3	4
100 years and over																3
Age not stated																
Total			8	14	5	5	28	35	21	13	3	4	4	360	307	667
Grand total			22		10		68		34		7		10	667		667

[illegible]

100	Bronchopneumonia: a. Bronchopneumonia b. Capillary bronchitis	37 4	29 1				66 5
101	Pneumonia: a. Lobar b. Unspecified	7 2	6 1				14 1
105	Asthma						2
107	Other diseases of the respiratory system (tuberculosis excepted): c. Others under this title						1
108-127	VI. Diseases of the digestive system						
111	Ulcer of the stomach and duodenum: a. Ulcer of the stomach	2	2				4
112	Other diseases of the stomach (cancer excepted)	11	10				3
113	Diarrhea and enteritis (under 2 years of age)	5	2				21
114	Diarrhea and enteritis (2 years and over)						8
117	Appendicitis and typhlitis	1	2				3
122	Cirrhosis of the liver: a. Not specified as alcoholic b. Other diseases of the liver	1 3					1 4
128-142	VII. Nonsensereal diseases of the genito-urinary system and annexa						
128	Acute nephritis (including unspecified under 10 years of age)	7	4				11
129	Chronic nephritis (including unspecified 10 years and over)	14	13				28
141	Other diseases of the female genital organs		1				1
143-150	VIII. The puerperal state						
143	Accidents of pregnancy: b. Ectopic gestation c. Others under this title						1
144	Puerperal hemorrhage		1				1
146	Puerperal septicemia		3				3
151-154	IX. Diseases of the skin and of the cellular tissue						
151	Gangrene		1				1
153	Acute abscess	4					4
154	Other diseases of the skin and annexa		1				1
159	XI. Malformations						
159	Congenital malformations (stillbirths not included): b. Congenital malformations of the heart c. Others under this title	1 2					2 2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema			13	24									37
161	Premature birth; injury at birth:													
162	a. Premature birth (not stillborn)			6	2									8
	Other diseases peculiar to early infancy			3	6									9
164	<i>XIII. Old age</i>													
164	Senility			12	16									28
165-203	<i>XIV. External causes</i>													
178	Conflagration													2
179	Accidental burns (conflagration excepted)			2	1					2				3
188	Accidental traumatism by other crushing (vehicles, railways, landlides, etc.):													
	b. Street-car accidents			1										1
	c. Automobile accidents			1										2
	d. Motorcycle accidents									1				1
	e. Starvation (deprivation of food or water)													1
192	Homicide by cutting or piercing instruments			1										1
198				1										1
	Total	3		329	301	3	2	1	1	21	2	3	1	667
	Grand total	3		630		5		2		23		4		667

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
87-96	<i>IV. Diseases of the circulatory system</i>													
88	Endocarditis and myocarditis (acute)				1									1
90	Other diseases of the heart			3	1					1				5
91	Diseases of the arteries: <i>a.</i> Arteriosclerosis			1	1									2
97-107	<i>V. Diseases of the respiratory system</i>													
99	Bronchitis: <i>a.</i> Acute			1	2									3
100	Bronchopneumonia: <i>a.</i> Bronchopneumonia <i>b.</i> Capillary bronchitis			4	4									8
101	Pneumonia: <i>a.</i> Lobar <i>b.</i> Unspecified			3	1									4
102	Pleurisy			1	1									2
108-127	<i>VI. Diseases of the digestive system</i>													
111	Ulcer of the stomach and duodenum: <i>a.</i> Ulcer of the stomach <i>b.</i> Ulcer of the duodenum			1	1									2
114	Diarrhea and enteritis (2 years and over)			2										2
117	Appendicitis and typhlitis			1	2									3
118	Hernia, intestinal obstruction: <i>a.</i> Intestinal obstruction <i>b.</i> Not specified as alcoholic			1	1									2
122	Cirrhosis of the liver			2										2
123	Biliary calculi			2										2
128-142	<i>VII. Nonvenereal diseases of the genito-urinary system and annexa</i>													
128	Acute nephritis (including unspecified under 10 years of age)			1						1				2
129	Chronic nephritis (including unspecified 10 years and over)			2	3					1				6

VIII. The puerperal state

143-160

143 Accidents of pregnancy:

a. Ectopic gestation..... 1

148 Puerperal albuminuria and convulsions..... 1

IX. Diseases of the skin and of the cellular tissue

151-164

152 Furuncle..... 1

153 Acute abscess..... 2

XII. Early infancy

160 Congenital debility, icterus, and sclerema..... 1 1

XIII. Old age

164 Senility..... 2

XIV. External causes

165-208

178 Conflagration..... 1

179 Accidental burns (conflagration excepted)..... 1

188 Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):

c. Automobile accidents..... 1 2

Total..... 1 61 41

Grand total..... 1 102

109

109

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
16. Dysentery:						
b. Bacillary					2	2
21. Erysipelas					2	2
23. Lethargic encephalitis					3	3
29. Tetanus:						
c. Umbilical				3	1	4
38. Syphilis					1	1
55. Beriberi				12	63	75
56. Rickets					4	4
71. Meningitis:						
a. Simple meningitis					1	1
99. Bronchitis:						
a. Acute				1	22	23
b. Chronic					1	1
100. Bronchopneumonia:						
a. Bronchopneumonia					27	27
b. Capillary bronchitis					3	3
101. Pneumonia:						
a. Lobar					2	2
112. Other diseases of the stomach, (cancer expected)					2	2
113. Diarrhea and enteritis				2	17	19
124. Other diseases of the liver					1	1
128. Acute nephritis					6	6
129. Chronic nephritis					3	3
152. Furuncle					1	1
153. Acute abscess					1	1
154. Other diseases of the skin and annexe					1	1
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart					2	2
c. Others under this title		1		1		2
160. Congenital debility, icterus, and sclerema	9	3	1	8	18	39
161. Premature birth; Injury at birth:						
a. Premature birth (not still-born)	5			3		8
162. Other diseases peculiar to early infancy	3	2		3	1	9
192. Starvation (deprivation of food or water)					1	1
Total	17	6	1	33	186	243

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	23,343
Number of rats caught by spring traps	2,555
Number of cage wire traps set	682
Number of rats caught by cage wire traps	8
Number and kind of baits (coconuts)	24,025
Number of poison portions placed	14,134
Number of rats found poisoned	104
Number of rats killed by clubs and other weapons	500
Number of rats found dead from other causes	546
Total number of rats otherwise caught, found dead, or killed	3,753
Total number of rats sent to the Laboratory for examination	3,753
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF DECEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....	2	2	3	2	2	1	1	2	2	3	4	5	6
	No. 2.....	1	2						2		2		4	
	No. 3.....	3							1		1		1	
	No. 4.....	2	1						3	2	1		4	2
II.....	No. 5.....													
	No. 6.....	1							1				1	
	No. 7.....	2	2	1	1				3	1	2	1	5	2
	No. 8.....													
	No. 9.....	2							2				2	
	No. 10.....	1	1	1					1	1		1	1	1
	No. 11.....													
	No. 12.....	2							2		1		2	
	No. 13.....		1							1		1	1	
	No. 14.....		1										1	
	Transients.....	9	3	7					9	3	7	1	16	4
Total.....	23	6	16	6	3	3	1	1	26	9	17	7	43	16

REMARKS:

Total cases reported within the month in the City of Manila.....

Resident cases.....

Non-resident cases.....

Foreign cases.....

Total deaths reported within the month in the City of Manila.....

Deaths among resident cases.....

Deaths among non-resident cases.....

Deaths among foreign cases.....

Total cases confirmed as Typhoid Fever.....

Cases confirmed as Paratyphoid Fever.....

By autopsy.....

By blood culture.....

By widal reaction.....

By urine examination.....

By faces examination.....

By clinical symptoms.....

Cases not confirmed.....

Typhoid Carrier—3

52

16

43

9

9

DYSENTERIES REPORTED DURING THE MONTH OF DECEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts		Hospital				Home				Total				Grand total	
		Male		Female		Male		Female		Male		Female			
Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1.	1		1		7	5	3	3	8	5	4	3	12	8
	No. 2.	1				1	1	1	1	2	1	1	1	3	2
	No. 3.	1	1							1	1			1	1
	No. 4.			1		1	1	2	2	1	1	3	2	4	3
II.	No. 5.														
	No. 6.														
	No. 7.	1		3	1	1	1			2	1	3	1	5	2
	No. 8.														
III.	No. 9.														
	No. 10.			1								1		1	
	No. 11.														
	No. 12.														
	No. 13.														
	No. 14.														
Transients.		6	2							6	2			6	2
Total.....		10	3	6	1	10	8	6	6	20	11	12	7	32	18

REMARKS:

Total cases reported within the month in the City of Manila.....

39

Resident cases.....

32

Non-resident cases.....

7

Total deaths reported within the month in the City of Manila.....

18

Deaths among resident cases.....

16

Deaths among non-resident cases.....

2

Total cases not confirmed as Dysentery.....

7

Dysentery Carrier—None.

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1 1								1				1	
	No. 2 1	1	1						1	1	1		2	1
	No. 3 1													
II.....	No. 4 1										1		1	
	No. 5 1		1											
	No. 6 1													
	No. 7 1								1				1	
	No. 8 1													
III.....	No. 9 1								1				1	
	No. 10 1								1					
	No. 11 1													
	No. 12 2								2				2	
	No. 13 7	3	6	2					7	3	6	2	13	5
Transients.....														
Total.....	13	4	8	2					13	4	8	2	21	6

REMARKS:

Total cases reported within the month in the City of Manila.....	22
Resident cases.....	9
Non-resident cases.....	13
Foreign cases.....	0
Resident cases not confirmed as cholera.....	1
Non-resident cases not confirmed as cholera.....	0
Total deaths reported within the month in the City of Manila.....	6
Deaths among residents cases confirmed as cholera.....	1
Deaths among non-residents confirmed as cholera.....	5

Cholera Carrier—30

DIPHTHERIA REPORTED DURING THE MONTH OF DECEMBER, 1925, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I	No. 1.....	1							1		1		2	
	No. 2.....		1											
	No. 3.....													
II	No. 4.....		1								1		1	
	No. 5.....													
	No. 6.....													
	No. 7.....													
	No. 8.....													
	No. 9.....	1							1				1	
III	No. 10.....	1							1				1	
	No. 11.....													
	No. 12.....	2							2		1		3	
	No. 13.....		1											
	No. 14.....	1							1				1	
	Transients.....													
	Total.....	6		3					6		3		9	

REMARKS:

Total cases reported within the month in the City of Manila.....

14

Resident cases.....

13

Non-resident cases.....

1

Resident cases not confirmed as diphtheria.....

5

Non-resident cases not confirmed as diphtheria.....

0

Total deaths reported within the month in the City of Manila.....

0

Deaths among resident cases confirmed as diphtheria.....

0

Deaths among non-resident cases confirmed as diphtheria.....

0

Deaths among resident cases not confirmed as diphtheria.....

0

Deaths among non-resident cases confirmed as diphtheria.....

0

Diphtheria Carrier—1

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF DECEMBER, 1925**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	12	3	2	
Varicella.....	7	6		
Varioloid.....				
Smallpox.....				
Measles.....	19	21		1
Whooping cough.....				
Influenza.....	13	8	3	
Bubonic plague.....				
Encephalitis lethargica.....	1	3	1	3
Meningitis cerebrospinal epidemic.....	1		1	
Pulmonary tuberculosis.....	152	112	81	65
Tuberculosis of all forms.....	4	4	4	4
Beriberi, infantile.....	39	32	39	32
Beriberi, adult.....	1	2	1	2

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	26	3	1	1
Varicella.....	23	10		
Varioloid.....				
Smallpox.....				
Measles.....	7	2		
Whooping cough.....				
Influenza.....	9	1		1
Bubonic plague.....				
Encephalitis lethargica.....	1		1	
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	24	14	7	5
Tuberculosis of all forms.....	1		1	
Beriberi, infantile.....	3	1	3	1
Beriberi, adult.....				

* One permanent residence unknown included.

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF DECEMBER, 1925**

Sera and vaccines	On hand, December 1, 1925	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Antidiphtheric serum (units).....	550,000		550,000	415,000	135,000
Antidysenteric serum (ampoules).....	59	250	309	216	93
Antitetanic serum (units).....	280,000	740,000	1,020,000	540,000	480,000
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	110,260	592,540	702,800	702,800	
Dried vaccine virus (units).....	39,500	109,900	149,400	92,500	56,900
Fresh vaccine virus (units).....	99,800	200,000	299,800	196,100	103,700
Gonococcus vaccine (ampoules).....					
Mixed (cholera-typhoid) vaccine (c.c.).....	52,520	247,540	301,060	301,060	
Normal horse serum (ampoules).....		50	50	50	
Streptococcus vaccine (ampoules).....		50	50	50	
Typhoid vaccine (c.c.).....	4,370	18,000	22,370	15,240	7,130

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1925

Health districts	Municipal districts	Vaccinations				Inspection of persons vaccinated					
		Total vaccinations	Previously vaccinated		Unsuccessfully	Under 1 year		1 to 4 years		5 years and over	
			Never	Successfully		Positive	Negative	Positive	Negative	Positive	Negative
No. 1.	Tondo.	1,432	268	1,131	33	231	4	43	16	66	81
	San Nicolas.	89	78	11	11	49	3	3	2	2	54
	Binondo.	68	59	9	9	32	1	3	1	1	36
	Santa Cruz.	1,262	165	1,054	43	198	4	76	40	84	96
	Quiapo.	31	31	1	1	31	2	2	2	33	140
No. 2	San Miguel.	24	23	1	1	12	2	2	1	14	33
	Sampaloc.	219	211	8	8	157	2	7	3	167	2
	Port Area.	44	43	1	1	46	1	2	1	46	1
	Intramuros.	97	81	16	16	77	2	2	1	80	2
	Ermita.	1,339	84	1,238	17	76	3	58	46	155	174
No. 3.	Malate.	44	42	2	2	32	1	1	1	32	1
	Paco.	37	35	2	2	14	2	2	14	14	2
	Pandacan.	30	27	3	3	10	1	1	1	10	1
	Santa Ana.										
	Total.	4,716	1,147	3,423	146	965	24	196	102	197	332
										1,358	458

Vaccine Virus:
 Received 10,800
 Used 8,200
 Remained 2,600

ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1925

Health districts	Municipal districts	Number of injections made in				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.	287		69		356	
	San Nicolas.	410		38		448	
	Binondo.	151		19		170	
	Santa Cruz.	270		57		327	
	Quiapo.	121		63		184	
No. 2.	San Miguel.	118		34		152	
	Sampaloc.						
	Port Area.	42		16		58	
	Intramuros.						
	Ermita.						
No. 3.	Malate.	8				8	
	Paco.	106		7		113	
	Pandacan.						
	Santa Ana.						
	Total.	1,513		303		1,816	

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING DECEMBER, 1925¹

Health districts	Municipal districts	Number of injections made in—												Total number of injections					
		Adults						Children						First			Second		
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		V.	R.	V.	R.	V.	R.
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.						
No. 1.	Tondo.....	1,255	1,275	342	1,030	195	1,004	332	701	158	494	102	464	1,587	1,976	500	1,524	297	1,468
	San Nicolas.....	484	1,920	323	1,697	69	1,215	325	554	36	526	20	239	809	2,474	359	2,133	89	1,454
	Binondo.....	212	1,037	121	731	134	404	102	795	22	742	16	196	314	1,832	143	1,473	210	600
	Santa Cruz.....	152	804	135	549	87	543	86	977	104	804	94	201	238	1,781	239	1,353	181	744
	Quisapo.....	6	2	.....	.....	.....	.....	2	1	.....	.....	.....	.....	8	3	.....	.....	.....	.....
No. 2.	San Miguel.....	791	791	223	138	182	182	67	903	138	715	186	712	67	1,694	138	938	324	894
	Sampaloc.....	791	1,046	830	1,010	631	1,004	871	2,197	1,038	2,038	439	2,038	1,662	3,243	1,868	3,048	1,070	3,042
	Port Area.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Intramuros.....	76	160	50	94	49	209	23	7	3	8	7	10	99	167	53	102	56	219
	Ermita.....	51	29	118	63	50	149	.....	11	15	.....	7	.....	51	40	133	63	50	156
No. 3.	Malate.....	285	118	217	132	123	263	132	54	128	70	62	109	417	172	345	202	185	372
	Paco.....	190	587	312	295	246	85	112	178	119	92	172	31	302	765	431	387	418	116
	Pandacan.....	38	36	.....	31	.....	18	10	20	.....	13	.....	10	48	56	.....	44	.....	28
	Santa Ana.....	111	393	28	252	.....	648	41	695	14	506	.....	137	152	1,088	42	758	.....	785
	Total.....	3,651	8,198	2,476	6,017	1,782	5,724	2,103	7,093	1,775	6,008	1,098	4,154	5,754	15,291	4,251	12,025	2,880	9,878

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine used for the third injections.

V, in persons never vaccinated before; R, revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Total vaccina- tions	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	58,240	6,945	38,620	12,675
Agusan.....	4,198	959	1,386	1,853
Albay.....	35,264	9,857	9,667	16,240
Antique.....	31,252	11,086	12,344	7,822
Bataan.....	13,490	3,489	5,232	4,769
Batanes.....	1,719	386	601	732
Batangas.....	46,165	12,342	10,720	28,103
Bohol.....	166,897	32,537	87,000	47,360
Bulacan.....	177,265	29,893	134,175	13,697
Cagayan.....	47,782	6,722	22,804	18,256
Camarines Norte.....	8,733	2,784	2,775	3,174
Camarines Sur.....	148,453	17,409	99,755	31,289
Capiz.....	115,804	31,751	66,253	17,800
Catanduanes.....	14,169	3,508	2,814	7,847
Cavite.....	34,047	6,285	17,539	10,223
Cebu.....	102,420	31,089	24,538	46,793
Cotabato.....	21,006	6,581	6,216	8,209
Culion Leper Colony.....	928	27	220	81
Davao.....	9,887	4,141	2,758	2,988
Ilocos Norte.....	28,313	7,498	8,029	12,786
Ilocos Sur.....	67,132	18,081	30,590	28,461
Iloilo.....	66,451	30,551	12,045	23,855
Isabela.....	16,274	4,680	6,159	5,435
Laguna.....	31,208	10,959	8,765	11,484
Lanao.....	16,951	3,807	8,811	4,333
La Union.....	99,794	10,159	66,903	22,732
Leyte.....	100,407	37,441	12,399	50,567
Marinduque.....	10,433	2,160	3,092	5,181
Masbate.....	13,541	3,570	4,715	5,256
Mindoro.....	24,839	3,971	14,402	6,466
Misamis.....	76,680	21,379	40,137	15,164
Mountain Province.....	21,891	7,168	7,686	7,037
Nueva Ecija.....	39,809	11,744	11,534	16,531
Nueva Vizcaya.....	25,790	2,580	17,591	5,619
Occidental Negros.....	27,528	13,114	5,860	8,554
Oriental Negros.....	30,409	7,628	10,792	11,989
Palawan.....	25,163	7,571	11,259	6,333
Pampanga.....	40,230	7,148	15,746	17,336
Pangasinan.....	77,020	24,499	10,123	42,398
Rizal.....	29,071	7,723	13,884	7,464
Romblon.....	5,912	2,498	1,300	2,114
Samar.....	184,509	30,054	100,312	54,143
Sorsogon.....	28,484	10,085	8,027	10,372
Sulu.....	28,054	12,535	7,048	8,471
Surigao.....	56,065	16,531	16,325	23,209
Tarlac.....	26,024	5,002	16,015	5,007
Tayabas.....	33,061	11,310	8,873	12,878
Zambales.....	9,654	2,476	3,284	3,894
Zamboanga.....	23,589	6,865	7,478	9,246
Total.....	2,301,405	552,578	1,034,601	714,226

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Inspections of persons vaccinated						Total	
	Under 1 year		1 to 4 years		5 years and over			
	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
Abra.....	1,281	580	7,117	2,621	20,444	12,871	28,842	16,072
Agusan.....	321	155	219	148	400	867	940	1,170
Albay.....	3,307	1,366	3,227	1,332	6,958	4,833	13,492	7,531
Antique.....	2,176	363	4,691	1,171	4,842	4,066	11,709	5,600
Bataan.....	2,026	355	3,663	1,847	3,124	1,953	8,813	4,155
Batanes.....	205	80	335	125	651	208	1,191	413
Batangas.....	5,813	893	9,039	2,901	10,596	9,756	25,448	13,550
Bohol.....	6,081	1,269	20,034	4,636	58,677	45,833	84,792	51,738
Bulacan.....	8,714	782	17,347	3,648	53,503	44,450	79,564	48,880
Cagayan.....	2,537	466	5,724	1,422	19,386	11,862	27,647	13,750
Camarines Norte.....	1,406	281	1,725	449	3,010	1,066	6,141	1,796
Camarines Sur.....	4,946	1,005	12,932	3,110	57,155	25,565	75,033	29,680
Capiz.....	6,696	974	13,024	2,523	41,242	13,926	60,962	17,423
Catanduanes.....	1,827	666	1,683	765	2,031	1,248	5,041	2,679
Cavite.....	4,020	693	5,505	1,566	14,027	7,968	23,552	10,227
Cebu.....	8,955	3,486	11,858	3,945	17,821	16,097	38,634	23,528
Cotabato.....	380	250	1,350	868	5,354	4,252	7,084	5,370
Culion Leper Colony.....	19	6	8	3	172	119	199	128
Davao.....	405	117	1,612	543	4,850	1,969	6,867	2,629
Ilocos Norte.....	3,009	413	6,302	1,288	7,918	6,414	17,229	8,115
Ilocos Sur.....	7,121	1,593	12,645	4,131	22,363	12,328	42,129	18,052
Iloilo.....	8,662	831	13,649	2,175	18,655	7,843	40,966	10,849
Isabela.....	617	281	2,128	1,037	4,693	3,824	7,438	5,142
Laguna.....	5,383	1,320	4,265	1,789	7,248	8,704	16,896	11,813
Lanao.....	907	168	1,669	568	3,325	1,365	5,901	2,101
La Union.....	4,250	832	10,883	5,709	30,069	24,907	45,202	31,448
Leyte.....	8,844	2,844	13,102	4,836	24,346	11,210	46,292	18,890
Marinduque.....	877	306	1,301	482	3,359	1,377	5,537	2,165
Masbate.....	689	288	1,249	616	3,369	2,539	5,307	3,443
Mindoro.....	672	163	2,016	641	7,400	5,101	10,088	5,905
Misamis.....	1,835	725	6,783	2,066	22,059	8,136	30,677	10,927
Mountain Province.....	893	246	2,489	893	4,914	2,976	8,296	4,115
Nueva Ecija.....	5,242	1,266	7,575	2,930	10,205	8,023	23,022	12,219
Nueva Viscaya.....	842	69	2,694	1,006	7,617	7,948	11,153	9,023
Occidental Negros.....	4,571	1,055	4,772	1,509	6,189	2,259	15,532	4,823
Oriental Negros.....	3,382	1,065	4,761	2,168	8,516	4,902	16,659	8,135
Palawan.....	443	40	1,954	208	8,593	5,227	10,990	5,475
Pampanga.....	3,083	613	4,027	1,455	11,334	11,175	18,444	13,243
Pangasinan.....	11,912	2,303	16,287	4,411	18,979	13,693	47,178	20,407
Rizal.....	4,047	1,052	3,801	1,757	5,892	7,405	13,740	10,214
Romblon.....	679	162	1,223	368	1,713	877	3,615	1,407
Samar.....	4,621	1,250	17,565	5,345	65,797	26,637	87,983	33,232
Sorogon.....	3,230	937	4,917	1,968	7,149	3,979	15,296	6,884
Sulu.....	1,024	392	4,827	1,356	8,651	3,115	14,502	4,863
Surigao.....	1,807	556	4,764	1,349	16,143	8,003	22,714	9,908
Tarlac.....	2,400	524	2,966	1,308	6,155	9,386	11,521	11,218
Tayabas.....	3,574	777	5,307	1,442	12,037	5,897	20,918	8,116
Zambales.....	1,261	286	1,434	858	2,400	2,856	5,095	4,000
Zamboanga.....	1,599	1,141	2,153	1,704	3,754	4,412	7,506	7,257
Total.....	158,091	37,285	290,601	90,996	685,085	431,427	1,133,777	559,708

¹ Incomplete; reports from the other provinces not yet received.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra						
Agusan						
Albay	14,543	11,013	2,300	2,513		
Antique						
Bataan	1,518	2,079				
Batanes						
Batangas	3,901	3,025	84	20		
Bahol						
Bukidnon						
Bulacan	21,166	16,244	303	896		
Cagayan						
Camarines Norte	730	269	224	125		
Camarines Sur	15,410	10,521				
Capiz						
Catanduanes	1,127	991	749	487		
Cavite	7,596	4,199	378			
Cebu	1,639	2,503	242	162		
Davao	90	135	74	99		
Ilocos Norte						
Ilocos Sur						
Iloilo	1		1			
Isabela	170	12	9	2		
Laguna	2,293	2,806	32	3		
Lanao						
La Union						
Leyte						
Marinduque						
Masbate	253	6	253	6		
Mindoro						
Misamis						
Mountain Province	413		340			
Nueva Ecija	9,223	8,338				
Nueva Vizcaya						
Occidental Negros						
Oriental Negros						
Palawan						
Pampanga	10,822	8,575	2,167	2,105		
Pangasinan	155	143	62	43		
Rizal	29,003	20,152	140	50		
Romblon						
Samar						
Sorsogon	5,097	832	367	212		
Sulu						
Surigao						
Tarlac	112	7	44	5		
Tayabas						
Zambales						
Zamboanga						
Total	125,262	91,850	7,769	6,728		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-CHOLERA VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abrá									
Agusan									
Albay	9,818	8,208	1,974	1,937			43,582	8,724	
Antique									
Bataan	1,289	1,661					6,547		
Batanes									
Batangas	4,241	2,728	188	28			13,895	320	
Bohol									
Bukidnon									
Bulacan	22,233	12,502	309	653			72,145	2,161	
Cagayan									
Camarines Norte	270	159	118	93			1,428	560	
Camarines Sur	13,234	8,977					48,142		
Capiz									
Catanduanes	662	1,007	442	445			3,787	2,123	
Cavite	5,908	3,414	1				21,117	379	
Cebu	1,262	2,179	195	121			7,583	720	
Davao	32	105	26	85			362	284	
Ilocos Norte									
Ilocos Sur									
Iloilo	6		6				7	7	
Isabela	183	9	4	1			374	16	
Laguna	2,253	2,646	74	2			9,998	111	
Lanao									
La Union									
Leyte									
Marinduque									
Masbate	142	7	142	7			408	408	
Mindoro									
Misamis									
Mountain Province	374		319				787	659	
Nueva Ecija	6,709	6,880					31,150		
Nueva Vizcaya									
Occidental Negros									
Oriental Negros									
Palawan									
Pampanga	13,773	8,438	2,612	2,056			41,608	8,940	
Pangasinan	84	144	41	55			526	201	
Rizal	30,817	19,477	142	52			99,449	384	
Romblon									
Samar									
Sorsogon	3,327	764	526	281			10,020	1,386	
Sulu									
Surigao									
Tarlac	109	49	39	10			277	98	
Tayabas									
Zambales									
Zamboanga									
Total	116,726	79,354	7,158	5,826			413,192	27,481	

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....						
Agusan.....						
Albay.....	191	178	17	26	11	6
Antique.....						
Bataan.....						
Batanes.....						
Batangas.....	884	160	605	158	71	3
Bohol.....						
Bukidnon.....						
Bulacan.....	496	181	459	172	318	107
Cagayan.....						
Camarines Norte.....						
Camarines Sur.....						
Capiz.....						
Catanduanes.....						
Cavite.....						
Cebu.....	108	77	8	2		
Cotabato.....						
Davao.....						
Ilocos Norte.....						
Ilocos Sur.....						
Iloilo.....	57	30	25	6	23	6
Isabela.....						
Laguna.....	62	63	52	55	37	4
Lanao.....						
La Union.....					402	30
Leyte.....	32	49	22	16	12	8
Marinduque.....						
Masbate.....						
Mindoro.....	4	4	4	4	4	4
Misamis.....	325	240	93	43	3	
Mountain Province.....					164	29
Nueva Ecija.....						
Nueva Vizcaya.....						
Occidental Negros.....						
Oriental Negros.....						
Palawan.....						
Pampanga.....						
Pangasinan.....	368	298	218	168	125	124
Rizal.....	121	29	61	12	50	11
Romblon.....						
Samar.....	311	80	162	27	52	4
Sorsogon.....	80	16	14		20	4
Sulu.....						
Surigao.....						
Tarlac.....	65	1	54	1	26	1
Tayabas.....						
Zambales.....						
Zamboanga.....						
Total.....	3,104	1,406	1,794	685	1,318	341

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF ANTI-TYPHOID VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections				
	A.	C.	A.	C.	A.	C.	First	Second	Third
Abrs.									
Agusan.									
Albay.	102	105	10	8	15	6	576	61	38
Antique.									
Bataan.									
Batanes.									
Batangas.	681	210	463	174	56	11	1,935	1,400	141
Bohol.									
Bukidnon.									
Bulacan.	578	209	534	194	392	116	1,464	1,359	933
Cagayan.									
Camarines Norte.									
Camarines Sur.									
Capiz.									
Catanduanes.									
Cavite.									
Cebu.	109	59	4	2			353	16	
Cotabato.									
Davao.									
Ilocos Norte.									
Ilocos Sur.									
Iloilo.	91	17	52	3	60	8	195	86	92
Isabela.									
Laguna.	50	47	39	46	35	11	222	192	87
Lanao.									
La Union.					260	21			713
Leyte.	49	33	33	20	6	2	163	91	28
Marinduque.									
Masbate.									
Mindoro.	4	1	4	1	4	1	13	13	13
Misamis.	248	193	127	55			1,006	318	3
Mountain Province.					4	3			200
Nueva Ecija.									
Nueva Vizcaya.									
Occidental Negros.									
Oriental Negros.									
Palawan.									
Pampanga.									
Pangasinan.	376	311	251	157	206	98	1,353	789	553
Risal.	83	28	45	18	49	15	261	136	125
Romblon.									
Samar.	186	67	115	14	23	3	644	318	82
Sorsogon.	93	80	16			4	269	30	28
Sulu.									
Surigao.									
Tarlac.	3	3	3	3	2	3	72	61	32
Tayabas.									
Zambales.									
Zamboanga.									
Total.	2,653	1,363	1,696	695	1,112	297	8,526	4,870	3,068

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925¹**

Provinces	Number of injections made in males					
	First injections		Second injections		Third injections	
	A.	C.	A.	C.	A.	C.
Abra.....	19	3	463	31		
Agusan.....						
Albay.....	144	166	49	59		
Antique.....	1,284	1,538	460	569		
Bataan.....	902	275	410	99		
Batanes.....	235	78	51	13		
Batangas.....	216	129	193	123		
Bohol.....	1,176	314	828	200		
Bukidnon.....						
Bulacan.....	2,222	1,082	1,229	659		
Cagayan.....	825	332	359	125		
Camarines Norte.....	791	276	271	55		
Camarines Sur.....	2,225	1,069	1,320	649		
Capiz.....	1,597	594	693	287		
Catanduanes.....						
Cavite.....	5,165	5,414	4,589	4,721		
Cebu.....	10,862	7,356	3,013	1,578		
Cotabato.....	901	483	382	266		
Davao.....	196	116	168	116		
Ilocos Norte.....	2,462	2,022	1,063	2,292		
Ilocos Sur.....	1,773	711	883	386		
Iloilo.....	920	447	525	257		
Isabela.....						
Laguna.....	3,434	1,807	1,828	1,192		
Lanao.....	2,060	1,427	1,084	692		
La Union.....	3,414	2,562	2,785	2,386		
Leyte.....	3,987	1,709	1,961	903		
Marinduque.....	1,317	1,195	743	743		
Masbate.....	968	702	663	171		
Mindoro.....	191	178	16	1		
Misamis.....	1,311	611	455	328		
Mountain Province.....	299	222				
Nueva Ecija.....	1,504	656	1,005	619		
Nueva Vizcaya.....	578	495	346	469		
Occidental Negros.....	3,258	2,497	2,053	1,374		
Oriental Negros.....	1,279	1,471	889	638		
Palawan.....						
Pampanga.....	9,758	9,140	7,191	7,409		
Pangasinan.....	7,734	6,514	6,249	5,626		
Rizal.....	14,062	8,091	2,632	938		
Romblon.....	56	135	34	76		
Samar.....	328	540	356	422		
Sorsogon.....	961	535	104	64		
Sulu.....	86	26	36	6		
Surigao.....	490	236	322	184		
Tarlac.....	3,160	1,974	1,336	745		
Tayabas.....	1,855	386	831	193		
Zambales.....	1,045	579	1,006	536		
Zamboanga.....	3,717	2,317				
Total.....	100,257	68,405	50,862	38,150		

¹ Incomplete; reports from other provinces not yet received.

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**CONSOLIDATED REPORTS OF MIXED (TYPHOID AND CHOLERA) VACCINATIONS
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1925—Continued**

Provinces	Number of injections made in females						Total number of injections		
	First injections		Second injections		Third injections		First	Second	Third
	A.	C.	A.	C.	A.	C.			
Abra	6	1	222	34			29	750	
Agusan									
Albay	142	103	47	52			555	207	
Antique	979	1,298	358	482			5,094	1,869	
Bataan	682	189	342	61			2,048	912	
Batanes	169	48	25	9			530	98	
Batangas	180	54	173	45			579	534	
Bohol	949	324	663	229			2,763	1,918	
Bukidnon									
Bulacan	1,903	897	1,129	576			6,104	3,593	
Cagayan	409	259	133	106			1,825	723	
Camarines Norte	311	160	78	41			1,538	445	
Camarines Sur	1,870	948	1,151	606			6,107	3,726	
Capiz	1,108	432	459	213			3,731	1,652	
Catanduanes									
Cavite	4,772	4,500	4,154	3,937			19,851	17,351	
Cebu	7,999	5,717	2,213	1,406			31,434	8,210	
Cotabato	287	321	86	185			1,992	919	
Davao	56	82	44	82			450	410	
Ilocos Norte	2,865	1,895	1,191	1,988			9,234	6,534	
Ilocos Sur	1,131	629	520	324			4,244	2,113	
Iloilo	797	330	550	189			2,494	1,521	
Isabela	115	30	101	29			145	130	
Laguna	3,331	1,428	2,081	997			10,000	6,098	
Lanao	815	785	446	540			5,087	2,762	
La Union	2,197	1,692	1,928	1,412			9,865	8,461	
Leyte	2,765	2,634	1,684	935			11,095	5,473	
Marinduque	849	1,098	466	790			4,459	2,742	
Masbate	384	445	283	93			2,499	1,210	
Mindoro	54	117	71	38			540	126	
Misamis	1,149	619	420	407			3,690	1,610	
Mountain Province	177	241					939		
Nueva Ecija	768	545	628	647			3,473	2,899	
Nueva Viscaya	436	505	253	486			2,014	1,554	
Occidental Negros	2,256	2,503	1,592	1,392			10,514	6,411	
Oriental Negros	833	1,172	641	595			4,755	2,763	
Palawan									
Pampanga	10,338	7,538	7,463	6,014			36,764	28,077	
Pangasinan	7,696	6,057	6,262	5,205			28,001	23,342	
Rizal	13,102	6,454	2,773	887			41,709	7,230	
Romblon		86		42			277	152	
Samar	170	455	206	359			1,493	1,343	
Sorsogon	997	587	114	43			3,080	325	
Sulu	56	24	19	4			192	65	
Surigao	328	181	177	108			1,235	791	
Tarlac	2,089	1,525	857	620			8,748	3,558	
Tayabas	1,179	245	497	75			3,665	1,646	
Zambales	711	542	691	510			2,877	2,743	
Zamboanga	3,293	2,271					11,598		
Total	82,698	57,956	43,191	32,793			309,316	164,996	

A, means persons of 15 and over 15 years of age; C, below 15 years of age.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE
MONTH OF DECEMBER, 1925**

No case and no death reported during the month.

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF DECEMBER, 1925**

Provinces and towns	Cases	Deaths
Bataan:		
Dinalupihan	4	4
Hermosa	1	1
Orion	12	10
Bulacan:		
Bocaue	2	2
Bulacan	1	1
Calumpit	23	15
Guiguinto	1	1
Hagonoy	38	21
Paombong	13	9
Pulilan	2	
Quingua	1	
San Ildefonso	1	
Laguna:		
Arfield		1
Balatapi	1	
Binang	1	1
Camachile	4	2
Mangumit	2	1
Matangtubig	3	1
Near Alaminos	1	
Mindoro:		
Pinamalayan	32	22
Nueva Ecija:		
Cuyapo	6	2
Pampanga:		
Angeles	1	1
Apalit	9	5
Candaba	5	5
Floridablanca	4	2
Guagua	6	6
Lubao	1	
Marabede	19	16
Masantol	7	5
Minalin	7	6
San Luis	1	1
Santa Rita	3	2
Sexmoan	7	6
Rizal:		
Caloocan	3	2
Passay		1
Passig	1	1
Pateros	4	3
Taguig	13	8
Romblon:		
Romblon	61	53
Total.....	296	217

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF DECEMBER, 1925**

	Health districts—			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending, December 1, 1925:				
Minor	144	83	106	333
Sewer	23	59	7	89
Vacating	8	14	8	30
Filling	10	31	13	54
Total	185	187	134	506
Orders issued during the month:				
Minor	8	5	10	23
Sewer	1		1	2
Vacating	5	1	1	7
Filling		1		1
Total	14	7	12	33
Orders completed during the month:				
Minor	11	11	14	36
Sewer	3		1	4
Vacating		1		1
Filling		1		1
Total	14	13	15	42
Orders cancelled during the month:				
Minor	2			2
Sewer				
Vacating				
Filling				
Total	2			2
Orders pending, December 31, 1925:				
Minor	139	77	102	318
Sewer	21	59	7	87
Vacating	13	14	9	36
Filling	10	31	13	54
Total	183	181	131	495
Strong material plans approved:				
New buildings including additions and alterations	16	43	32	91
Permits for minor building construction:				
Approved	24	45	29	98
Disapproved	7	2	2	11
New buildings completed	22	33	41	96
Permits for light and mixed material constructions:				
Approved	6	23	31	60
Disapproved	1	2	4	7
Prosecutions:				
Convictions		1		1
Dismissals		2	1	4
Amount of fines		P10		P10
Plumbing permits issued	54	71	31	156
Plumbing projects completed	40	76	41	157
Premises connected to the sanitary sewer to November 30, 1925	2,454	4,170	526	7,150
Connected during the month	3	12	19	34
Total	2,457	4,182	545	7,184

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

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OF THE

PHILIPPINE HEALTH SERVICE

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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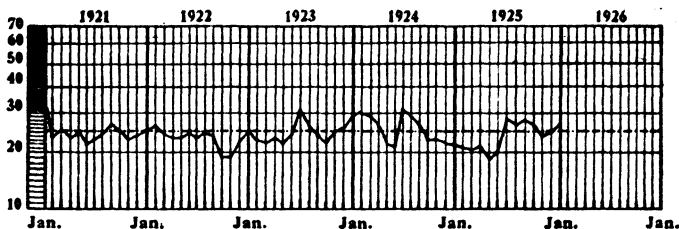
No. 1

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germes, says the United States Public Health Service, are usually a hand mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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JANUARY, 1926

No. 1

**LEPER SEGREGATION, AND THE PRESENT LEPROSY
SITUATION IN THE PHILIPPINES**

CASIMIRO B. LARA, M.D.¹

For a better understanding of the conditions at Culion and the general question of leper segregation, a brief review of the fundamental medical and social principles involved in leprosy segregation seems desirable.

**FACTS AND THEORIES CONCERNING THE NATURE OF THE DISEASE
AND ITS TRANSMISSION**

Leprosy belongs to that class of infectious diseases which have an admitted specific bacterial cause. The exact manner of its transmission is not known. It is assumed from definite knowledge of the ways by which other infectious diseases are transmitted that the causative germ of leprosy may gain access to the body by way of the respiratory tract, the alimentary tract, or thru intimate contact, especially in the presence of abrasions on the body surface. None of the lower animals have been shown to suffer from any disease identical with that seen in man, or to harbor habitually the organism of human leprosy. It is considered possible, that, thru the agency of blood-sucking parasites, the infection may be transmitted from a leper to a healthy person.

The disease is in all probability not hereditary, but the causative germ may be transmitted from a leprous mother to the foetus thru their common circulation. This fact, which had previously been shown to occur in a few instances, has recently had a significantly frequent confirmation at the hands of the

¹ Fellow, Mayo Foundation, Rochester, Minnesota.

pathologists at Culion. However, it is known that leprosy rarely develops in children removed at birth from their leprous mothers. It is also known that most of them will develop the disease if they remain exposed for a long time. (This is true at least for Culion.) Children and young adults in general are particularly susceptible to the disease if they are exposed in a place where leprosy is prevalent.

Under conditions obtaining in leper institutions healthy adults exposed for even a long time rarely contract the disease. We are not justified in concluding from this that the communicability of leprosy is slight. Persons, who from the nature of their duties or mission have to come in contact with segregated lepers, generally observe some precautionary measures, and practically never have to be in such intimate and prolonged contact with them as that afforded or demanded by the closest family relationships. Moreover they are as a rule grown-ups, and it is known that adults are much less susceptible to the disease than young people.

Another curious fact about leprosy is that in some countries it spreads more readily than in others. This may be due to a greater race susceptibility, but it is believed to be more likely due to the fact that in less progressive countries there is more poverty and ignorance among the masses, and these handicaps are not conducive to good hygiene and a strong physical condition.

THE LEPER'S LEGITIMATE CLAIM ON SOCIETY

Leprosy has always been looked upon as a loathsome disease. No amount of education and culture has been able entirely to eradicate this concept of the disease from the popular mind; indeed, even medical men not familiar with leprosy but who should nevertheless have a better knowledge of its communicability than the general public entertain the same dread for it. The result is that from the earliest times the leper has always been a social outcast.

The leper himself is even more sadly aware of his unfortunate position than society that has outcasted him thru no fault of his own. At first, perhaps because he does not suspect that he has the disease, or, suspecting it, yet hopes it is some other disease, he keeps on living with his family without observing the necessary precautions. Even if he or his family should actually be aware of the serious nature of his illness, the strong family tie of love will keep them living together, at least for sometime. With respect to this common sentiment there is

no reason or need for distinguishing one race of people from another. Sooner or later, however, the leper becomes a physical and mental burden, and a serious social handicap for his own family, and unless some benevolent society or government provide for his care he is in a worse plight than a beggar.

In mentioning the regrettable general attitude of society to the leper, it is but just that I should also remember to cite the disinterested and unceasing service that missionary institutions and charitable societies have been rendering to these unfortunates. During many years of untold suffering their ministrations had been the only relief of the leper when the general public and governments alike were at best only indifferent. But it is not just that the leper should be made to feel that he deserves only pity and charity from society for whose sake he is made an outcast. Society is under a heavy obligation to provide for his care and comfort, which are his due, and it is clearly the Government's duty, as the constituted form of organized society, to make such provision of the best possible kind at its disposal.

NECESSITY OF SEGREGATION IN LEPROSY

The desirability and necessity of segregating lepers from the points of view of both the community and the lepers themselves have been made evident from the above considerations. I cannot take stand with those who think that the low mortality from the disease, even in a place where it is prevalent, as compared with the mortality from other diseases, should invalidate the need for its segregation; nor with those who think that segregation is unnecessary because this infection spreads less readily than others. If leprosy were as easily contracted as common cold, or influenza, practically everybody would eventually be affected, and there would be then no need for segregation. Its very insidiousness in undermining the health of the community and its ability to produce permanent crippling effects make it highly desirable and necessary that the disease be kept under control; but, above all, the degraded and miserable state of the leper as the unavoidable result of society's attitude toward him makes it imperative that he should be segregated and given the best care and treatment in the only way that could make him feel that he is entitled to such care, and that is by governmental provision. It seems almost needless to point out further, that under such an arrangement greater and more effective coöperation with missionaries and charitable societies would be secured.

APPLICABILITY OF SEGREGATION IN LEPROSY

The question of whether or not leprosy can be controlled by segregation has already had a practical trial in various countries. The results have been differently construed and adduced to support either an affirmative or a negative answer, depending on how much information and experience the critic has and how far he has allowed himself to be prejudiced by his feelings and motives. Theoretically, at least, there can hardly be any question that absolute segregation would eventually control the disease. If the practical results of segregation have not been always completely satisfactory, it is chiefly because absolute segregation of all cases and close observation of all contacts have not been attained. Still, leprosy has been practically wiped out in some countries only after some form of segregation had been enforced.

The value of other factors such as improved sanitation and better living conditions in the control of leprosy is not denied; but even these, in their final analysis, to a great extent mean a better opportunity for individual segregation. Moreover, in countries where segregation of lepers has to be considered, it would be infinitely better to organize and enforce this sanitary measure and anticipate good results, than to trust to the rather indefinite and uncertain beneficial influence of higher education and economic betterment attending racial progress.

The burden of proof rests heavily with those who would still deny the value of segregation; and a great responsibility is assumed by those who would do away with segregation.

The enforcement of segregation to be successful must take into account the local conditions. No one system can be employed with equal success in all countries, but in general the aim should be, at least in endemic areas, to secure as complete segregation as possible with due regard to avoiding or remedying such of its objectionable features as must perforce tend to defeat the end sought. Segregation should result in benefit to both the community and the leper; if this viewpoint is lost sight of in its enforcement the most expensive and elaborate efforts are bound to fail. So much for the prevention and control of leprosy, but we must also consider the care and treatment of the individual case.

TREATMENT OF LEPROSY AND ITS INFLUENCE OF SEGREGATION

We have in chaulmoogra oil a very valuable remedy for leprosy. Unfortunately it is not of sufficient potency to effect a

cure in every case, and it has to be used for quite a long time before a decided improvement is noticeable. Furthermore, its use is not absolutely safe in unexperienced hands. However, it has been repeatedly shown that under favorable conditions it can effect a "practical cure" in at least 40 or 50 per cent of cases, and improvement or arrest of the disease in many others. (San Lazaro Hospital, Manila—Mercado; in India, Sir L. Rogers; Hawaii, Macdonald and Dean.) These results, so far, have been possible only in well-controlled institutions where proper hygienic conditions and expert medical care are available. From the standpoint of treatment, therefore, it seems almost superfluous further to point out the advantages of strict segregation in places where the great number of indigent lepers precludes effective treatment in any other manner.

It must be said, furthermore, that successful treatment and good care have had a beneficial reaction relative to the question of segregation through creating a more hopeful attitude and greater coöperation from those who are still inclined to evade it. Finally, segregation offers a more advantageous opportunity to carry on further studies designed to improve treatment and enhance methods for the prevention of the disease.

SEGREGATION OF LEPERS IN THE PHILIPPINE ISLANDS

Compulsory segregation has been in force in the Philippines for the last 19 years. Lepers collected from all over the Islands are finally transferred to Culion. For the great majority of the patients this means a permanent isolation. Those who become "practically cured" as the result of treatment are given a conditional parole after they have been under observation for a certain length of time.

Much work has been done, and millions expended, and some success has attended these efforts. That a more complete success has not been attained is not so much due to the inherent objectionable features of the system, as to the failure of the responsible authorities to appreciate the importance of certain features (relating to care and treatment of the leper) which will be discussed below.

Any compulsory measure is of course unpleasant. In the Philippines this was made more so by the deportation of the lepers to a far-off island, with little or no prospect of ever again seeing their families. The first condition is unavoidable, but time would eventually give the people the opportunity to realize its necessity. The second condition could have been rem-

edied by providing facilities for frequent visits by relatives. That this was not done, some might offer the ready excuse that the place was too far removed from the main routes of travel; but the real reason, I believe, was that segregation was enforced chiefly for the benefit of the community, and the farther the lepers were removed the better it suited this purpose. Still, if there had been sufficient interest in the welfare of the lepers, means would have been found to obviate this difficulty without prejudice to the enforcement of segregation; as they were eventually found and put into effect thru the personal interest and at the instance of Governor Wood.

The enforcement of leper segregation in the Philippines has accomplished a great deal for the community, but, as in any other great undertaking, the intense enthusiasm that attends the initial efforts to secure a complete and speedy success, is apt to cause some secondary but none the less crucial factors, to be overlooked. During the first years of segregation the problem of solving the needs of the segregated lepers apparently did not receive the same intensive attention that was given to the means of enforcing segregation. It was not till much later that the detrimental effects of this oversight were properly appraised and given due attention, and it must be said, in justice to the Philippine Government, that during the last five or six years, the needs of the lepers have been assiduously studied, and satisfied as far as possible. With the coming of General Wood as Governor, and thru his efforts, it has been possible still further to improve the lot of the leper at Culion.

Happily, the Culion of yesteryear is no longer the Culion of today both in spirit and in fact. This has come about as the result of enlightenment resulting in a less selfish attitude on the part of society and a more humane treatment of the lepers, to all of which the lepers have shown their appreciation by a better coöperation with the authorities.

A great number of the inmates appreciate their opportunity and are contentedly resigned to their lot; for they live there free from the hardship of working for their living, they enjoy certain privileges, pursue their occupations, and enjoy a broader life than they could if free. Their position is vastly better than formerly when they were not only sick, but loathed and cast out by society. In fact, this group would not leave Culion if given their choice. Many are being paroled as the happy result of treatment. They had been anxiously hoping and waiting for the day when they would be set free. Now that it has come,

are they happy? It is strange, but nevertheless true, that many of these come back to the authorities and beg to be readmitted as inmates or employees of the colony; because if they are poor and have no more relatives to depend upon, their opportunities of earning a living outside of the colony are very limited. Every year now many new cases voluntarily present themselves for segregation whereas before they had to be sought and captured. That more have not done so is because the public is not well informed of the improved conditions at Culion. There are also many who have no objection to remaining segregated, but would prefer to be in a place where it would be easier for their families to visit them.

This relation of actual conditions would be incomplete if I did not also mention that there are still some of the inmates who are discontented. However, these are very few, and from my association with them I am inclined to think that they belong to that small group of people in society that is always discontented under any condition. Unfortunately, it is the complaints of this group that are loudest and most often heard. It must also be pointed out that Culion is not the ideal place for treating all lepers. Colony life, which differs in no important respect from ordinary town life, precludes effective control of the treatment and the factors that influence it. For those who would get the most out of the treatment a more strict form of segregation is necessary. The patients should be further segregated as to sex; they should be under constant observation, and they should be given all the benefits of proper hygienic and sanitary measures. This form of segregation to be most effective and at the same time acceptable should offer opportunities for lessening the monotony of an institutionally regulated life; moreover, they should be more accessible to visits from relatives. To the lepers who would rather enjoy without restrictions the remaining years of their sad existence, and to those who are beyond hope of recovery Culion would be the most suitable place.

The realization of the above needs led the Philippine Health Service about two years ago to attempt to initiate the necessary improvements. Unfortunately, it was found impossible to appropriate additional funds to carry out these reforms, and it was likewise impossible to use part of the fund already appropriated for Culion for this purpose without interfering with the good work that has taken years of conscientious effort to accomplish.

The present campaign for Leprosy Aid Fund to help carry on the fight against leprosy in the Philippines has a higher aim than that of merely helping out the Philippine Government in the solution of this particular problem. It is an earnest effort to uphold the value of a great sanitary principle in the interest of all humanity; it also promises a happier lot and a brighter prospect to the leper. The success or failure of the fight against leprosy in the Philippines will greatly influence other countries to pursue or abandon their own efforts to eradicate the disease. Therefore, the work in the Philippines, should be carried on and not allowed to fall thru for want of financial support. My personal contact indicates that greater success is at hand and that the problem of the leper is approaching an ultimate solution. We still need for this end more interest, sympathy, generosity, willingness, and coöperation from both the Americans and the Filipinos.

NOTE.—In order to further improve segregation and Leprosy treatment in the Philippines, the Service is now carrying out a plan to establish Leprosy Treatment Stations, first in Manila, Cebu, and the Bicol provinces, and later, in some other provinces as financial conditions will so permit. The incipient cases will be treated in these stations, and the advanced and incurable cases sent to Culion.

NOTES ON A PECULIAR NECK DISEASE FOUND AMONG IFUGAOS AND BONTOCS OF THE MOUNTAIN PROVINCE

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DISTRIBUTION

The cases are not widespread, i. e., they are only found among the Ifugaos of Banaue, Liñgay, Hingion, and Anao and among the Bontocs, especially the smaller barrios around the municipal district of Bontoc. I have found about five cases in all, most of these cases being in the advanced stages of the disease. Dr. Francisco Gomez, former subdistrict health officer of Ifugao, found five cases during his stay there and Dr. Rafael Jagunap reported three more cases found during the latter part of 1924. In order to find out its incidence, a survey of the inhabitants of Kababuyan district was made by District Nurse Julio Angawa, and in reporting said incidence, he found only three out of 432 people examined irrespective of age, sex, and social status.

ETIOLOGY

This seems to be quite dark. Microscopical examination of pus and exudate from the lesions did not apparently reveal anything. Doctor Jagunap, former resident physician of the Bontoc Hospital, reported that he could not make out anything from examination of exudates from these patients. Microscopical examination of the exudate showed only bacteria and cocci of secondary infection, but no specific bacteria predominated. No etiology, therefore, with the data we have on hand, seems to be absolute. The possibility of yaws and syphilis can fairly well be excluded as the lesion does not respond to any specific treatment. It is, however, probable that the cases are tuberculous in origin, but the absence of the organism on microscopical examination makes one doubt as to its real causative agent. It might, however, still be an actinomycosis infection, but this cannot be definitely proven by us.

CLINICAL HISTORY

The disease starts as a small inflammation, circular in area, and situated just about an inch above the sternum near the

median line. The inflammation is at first hard and tender, but after a few days it softens and becomes fluctuating but does not seem to come to a head. The patient, then, opens it with a pointed instrument and, on being opened, pus oozes out. The opening enlarges and the lesion is converted into an open sore creeping upward along the course of the sternocleidomastoid muscle forming an angle with the vertex pointing downwards. This creeping tendency stops just below the angle of the jaw, then it spreads downwards assuming a peculiar heart-shaped form. The wound becomes painful hindering the movement of the neck. Then there is a general reddening of the surrounding tissues becoming still more tender, but this subsides in a few days. The patient then comes to the hospital with the lesion well-advanced and covered with a foul smelling pus, granulating tissue, which, with the irregular border, gives it the appearance of a serpiginous ulcer. Some cases heal, and on healing, present a keloid growth, pale, hard, and painful to the touch, altho there is no actual tenderness. Other cases do not heal at all, in spite of any treatment, and keep on oozing a thick, sticky, foul smelling pus. The lesion is not confined to the neck alone; the axilla and abdomen may also be affected.

TREATMENT

The treatment applied to those cases coming to hospital did not give very satisfactory results. Neosalvarsan given intravenously was of no avail. Fowler's solution and potassium iodide were both tried, but gave no improvement. Mercurial ointment made it worse and other ointments tried were practically useless. About the only drug that influenced healing, according to Dr. Gomez, was iodoform, but it was doubtful whether the healing was due to, or in spite of, the application of the iodoform powder.

NOTES ON VACCINATION "PER OS"

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There is not as yet sufficient evidence to demonstrate definitely whether vaccination by mouth is either useful and practical, or useless, impractical, and harmful. The experiences of different workers abroad may be divided into two, namely, those performed in experimental animals and those observed in men. These latter may further be divided into (a) carefully controlled experiments and (b) epidemiological experience.

EXPERIMENTS IN ANIMALS

(1) The experiments in animals started when Besredka in 1919 administered typhoid and dysentery bacilli by mouth to rabbits. When living dysentery bacilli were given to rabbits by mouth they develop symptoms comparable to dysentery in man. Besredka found that if the rabbits previously received killed dysentery bacilli by mouth, they resisted subsequent ingestion of living dysentery bacilli. By administering bile to rabbits, Besredka was able to produce an inflammation of the intestine with living culture of typhoid bacilli. When the rabbits were previously vaccinated with bile and dead typhoid bacilli, he found that the rabbits resisted subsequent ingestion of living typhoid culture. From these experiments Besredka concluded that the immunity acquired after vaccination "per os" was due to the resistance acquired by the intestinal mucosa. He claimed that the presence of immune bodies in the blood after injection with vaccine was not a symptom essential for the development of immunity. Immunity acquired by injection may be also ascribable to the increased resistance of the intestinal mucosa following the injection.

(2) Calmette, Bouquet et Negre experimented in Guinea pigs and rabbits by feeding them with cultures of a virulent strain of tubercle bacilli. Three months later these Guinea pigs and rabbits were tested with a virulent strain of tubercle bacilli. The result was that the lesions produced took sometimes as much as six months to appear and were mild in character while the

control animals died within 110 days from general tuberculosis in the case of Guinea pigs and somewhat later in the case of rabbits. (Med. Sci. 1924, 10.)

(3) Kanai, S., experimented on oral and subcutaneous methods of immunization against dysentery in rabbits. He concluded thus: "It has been possible to produce a certain degree of immunity in rabbits by the oral administration of *B. dysenteriae* (Shiga). The immunity so obtained is found to be far inferior to that produced by the subcutaneous inoculation of a carbolized vaccine administered in three doses of 50, 100, and 100 millions. The oral administration of large quantities of killed dysentery bacilli to rabbits is without effect on their general condition as judged by the body-weight." (Brit. Jour. Exp. Path. 1921, 2, 256.)

(4) In contrast with the above experiments in animals, Neri, F., has this to say: "In rabbits sensitized by means of administrations of either bile or olive oil a gastroenteritis paratyphosa is easily obtained. *B. paratyphosus* may, for this purpose, be inoculated intravenously or "per os," the result being practically the same. In sensitized and nonsensitized animals the inoculation of sublethal doses of *B. typhosus* does not protect the animals against living bacilli; but the same killed cultures immunize the rabbits if inoculated subcutaneously or intravenously. Even in immunized animals a cholecystitis and death from toxins set free from the bacteriolysins are sometimes observed." (Boll. d. Ist. sieroter. milanese. 1922, 2, 275.) (Abst. Med. Sci. 8, 1923, p. 413.)

(5) Neri, F., in his "Enteral and Parental Routes in Anti-typhoid Vaccination" (Ann. d'ig. 1923, 33:609) says: "Continuation of investigations to which reference has already been made (Medical Sci. 1923, 8, 413)—the administration "per os" of very large doses (up to 25 milliards) of killed typhoid bacilli to rabbits to which bile has previously been given—does not protect them against the intravenous inoculation of virulent bacilli. Typhoid antigen administered under the same conditions has an immunizing power. Rabbits, which are immunized against virulent bacilli, die of typhoid septicæmia without intestinal localizations. One parenteral vaccination injection is sufficient to protect the animal against intravenous inoculations of virulent bacilli. The antityphoid immunity always has a general character, but however obtained, it does not protect rabbits against a typhoid cholecystitis."

(6) Combiescq, D., *et al.*: "It is possible to protect rabbits

against dysentery by administration of culture by the mouth, but the results obtained are inconstant. With the same dose some rabbits become protected, whilst others die. Immunization may occur after small doses; in other instances none is produced with large ones.

The serum of the animal immunized per os contains neither agglutinins nor precipitins, while possessing considerable antitoxic power and thus proving that dysenteric toxins can traverse the mucous membranes. Many of the animals develop a toxic paralysis. On the whole, it may be said, that inoculation "per os" produces a general as well as a local immunity." (C. R. Soc. Biol. 1923, Apr. 14:88:12, pp. 904-906.) (Abst. Trop. Med. Bull., Sept., 1923:29:9.)

EXPERIENCES IN MAN

(1) Two forms of polyvalent vaccines were employed containing three thousand million organisms per cubic centimeter, which consisted in one vaccine of various strains of Shiga and Flexner, Strong and Y. The dose given daily for prophylaxis was 1 cubic centimeter for an adult, $\frac{1}{2}$ cubic centimeter for a child from 2 to 6 years of age, and $\frac{1}{4}$ cubic centimeter for infants under 2 years. The dose was repeated for three consecutive days. The vaccine was given in a little water on an empty stomach at least an hour before food. Apart from occasional nausea and giddiness of very short duration, occurring two hours after administration of the vaccine, no disagreeable symptoms were noted. Three days after the vaccine had been given serum agglutination was positive in 1:250 for Flexner and Shiga and usually lasted for two or three months. The results of the prophylactic administration of the vaccine were as follows: (1) Among 29,880 individuals vaccinated in definite endemic foci of bacillary dysentery no case of the disease occurred. (2) A sudden and complete arrest of epidemics of dysentery occurred after a general vaccination of the population in the infected area. (3) In a refugee camp in which there was a severe epidemic of dysentery, vaccine prophylaxis was confined to two-thirds of the population, with the result that the epidemic ceased among the vaccinated and continued among the unvaccinated. (4) Three hundred forty vaccinated individuals were transported from an uncontaminated to a contaminated camp and all escaped infection.—By GAUTHIER, A. (Bull. Acad. de Med., 1924, 91:72-83. (Abst. Med. Sci. 10, 1924.)

(2) Nicolle and Conseil tried to produce experimental dysentery in volunteers in Tunis. They found that administration by the mouth or per rectum, or both to 12 Tunisian volunteers did not produce dysentery. They ascribe this native resistance to the previous drinking of polluted water. They were able to produce dysentery in Europeans. In 1912, they gave by mouth dysentery bacilli to 2 Europeans and to one administered bacilli by rectum. All the three persons developed typical dysentery. In 1921 they administered dysentery bacilli by mouth to 2 Europeans who developed typical dysentery. Two other Europeans who 15 days previous were given by mouth killed bacilli, failed to develop dysentery symptoms upon ingestion of the same dose of living bacilli as the other two.

After successfully demonstrating the value of subcutaneous vaccination against Malta fever, they also tried the vaccination "per os." They administered to 2 persons *Micrococcus melitensis* by mouth. About 2 weeks after, these 2 persons received a subcutaneous injection of a living culture of *Micrococcus melitensis* together with an unvaccinated control. The control developed typical Mediterranean fever with positive blood culture and agglutinins. The 2 vaccinated ones did not develop any fever and were negative for blood culture and agglutinins. (Records of Inst. Pasteur 1922, No. 8.)

(3) Vaillant, L., Departmental Inspector of Hygiene, Pas-de-Calais, found after administration by mouth of vaccine with bile in 396 carefully observed persons that 15 had a light colic, 5 a little diarrhoea in the first day, 24 had headache, and 1 nausea. None of the persons so affected were prevented from going to work. Pregnant women or women during menstruation did not have any special trouble.

In various towns having a population of about 2,000 inhabitants, 1,236 were given the Besredka vaccine mixed with bile; 173 injected with heated T. A. B. vaccine and from 600 to 650 did not receive vaccination at all. Of the 1,236 vaccinated by mouth, 5 were attacked by typhoid fever, 3 during the vaccination period, and 2 at the 10th day of the vaccination, or an average of 0.17 per cent. Of those injected with T. A. B., 4 showed typhoid fever between the 5th and 12th day after the last injection, or 2.3 per cent. Of the 650 unvaccinated, there were 29 cases of typhoid fever before the beginning of the vaccination and 21 cases after the vaccination, or a total of 7.7 per cent. (Ann'l Inst. Pasteur 1922-vol. 36, pp. 148-156.)

(4) Cantancuzens and Panaitescu's statistics cover 8,673 persons inoculated subcutaneously; 2,286 given Besredka's bile-vaccine by mouth, and 5,575 control subjects. A certain number were vaccinated once, others two, or three times. In six and a half months ninety-six cases of typhoid and three of paratyphoid were recorded, including only nine vaccinated patients (three inoculated subcutaneously). The disease appeared from three to five months after the vaccination. The morbidity was thus 0.035 per cent after subcutaneous vaccination; 0.26 after the buccal administration, while it was 1.8 per cent in the controls. (Compt. Rend. Sos. Biol. 92:1089-1172, May 1, 1925). (Jour. A. M. A. 85, 1, 1925.)

SUMMARY

From the references above cited, 4 investigators found actual or doubtful immunity produced by administration "per os" of vaccine in animals. Only 1 worker failed to demonstrate or to obtain immunity by this method of vaccination. In the experiences in men, there is a unanimous finding that vaccination "per os" produces actual or doubtful immunity. I have not seen any reference describing experiences in men showing that there is no immunity produced. All those who have worked on men have not observed any harm from the administration "per os."

MISCELLANEOUS

LEYTE

Items of interest: Effective control of two cases of cholera followed with deaths aboard steamers from Manila. (b) Appropriation of ₱5,000 for anticholera vaccination in the province. (c) Intestinal parasites survey of school children. (d) Training of 40 special vaccinators for anticholera campaign. (e) Appropriation of ₱1,700 for ambulance service in the Hospital. (f) Position of two provincial nurses created by the provincial board.

PERSONNEL

Assistant Sanitary Inspector Abundio de Veyra was assigned to the municipality of Matalon.

Assistant Sanitary Inspectors Aurelio de los Santos and Ruperto Roña were ordered to their stations, Inopacan and Bato, respectively.

PAMPANGA

There was a recrudescence of cholera in the province during the month, Bacolor being a serious focus.

PERSONNEL

Doctor Verzosa was transferred to Vigan Hospital, Ilocos Sur; and Dr. Lazaro E. Ordoñez, formerly at Mexico, took his place in Bacolor; Dr. Vicente A. Hizon, of San Fernando, took charge of Mexico and Minalin instead.

PANGASINAN

Immunization work against cholera was intensified and the campaign against yaws was temporarily abandoned.

Malaria is still prevalent in the municipalities of Dagupan, San Carlos, Malasiqui, Urbiztondo, Santa Maria, San Fabian, and Lingayen.

SURIGAO

PERSONNEL

Dr. Geminiano Campomanes was transferred from the Third to the Second Sanitary Division.

TARLAC

There were 381 deaths in the province, 133 of which were among infants. There is a slight decrease in the total deaths and in infant mortality in comparison with that of the month of December, 1925.

The most prevalent diseases in the province were typhoid fever, malaria (tertian and quartan types), influenza, tuberculosis of the lungs, infantile and adults beriberi, convulsion of infants, bronchitis (acute and chronic), lobar, pneumonia, and congenital debility. Preventive measures, such as isolation and disinfection, were performed by the sanitary personnel to prevent the spread of these diseases.

Mixed cholera and typhoid vaccinations have been carried on by the sanitary personnel. The total number of persons vaccinated were: for the first injection, 12,431, for the second injection, 3,696.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of January, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹ BY NATIONALITIES

Nationality	Population
Americans	3,184
Filipinos	290,009
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All Others	2,186
Total	316,266

BY DISTRICTS

Districts	Population
No. I, MEISIC:	
1. Tondo	79,705
2. San Nicolas	28,792
3. Binondo	17,398
Total	125,895
No. II, SAMPALOC:	
4. Santa Cruz	51,565
5. Quiapo	15,658
6. San Miguel	4,377
7. Sampaloc	39,186
Total	110,786
No. III, PACO:	
8. Port Area	4,754
9. Intramuros	14,437
10. Ermita	15,981
11. Malate	16,259
12. Paco	15,830
13. Pandacan	5,785
14. Santa Ana	6,589
Total	79,585
Grand total	316,266

¹ Estimated on the basis of last figures published by the Census Office.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, JANUARY, 1926**

Date	Pres- sure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	761.86	24.6	32.3	4	19.4	8	26.5	27.1
11-20.....	60.86	24.4	32.6	19	17.3	13	26.3	27.0
21-31.....	63.99	23.5	31.9	21	16.7	30	26.2	26.7

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	74.5	78.6	1	67.4	10
11-20.....	76.1	81.1	13	69.2	11
21-31.....	74.2	87.9	22	65.1	25

Date	Prevailing direction	Wind			Atmidometer ³ (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	W, SW	1,121.0	140.5	3	36.5	4.7	10
11-20.....	SE	1,569.0	226.5	18	39.4	5.4	18
21-31.....	E quad	1,666.5	255.0	24	37.8	4.8	31

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	32 10	7 00	2	0.0	0
11-20.....	53 40	8 45	15	0.0	0
21-31.....	34 10	7 40	30	11.0	3

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the observatory park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY
OF MANILA BY NATIONALITIES**

(Stillbirths not included)

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	16	2	18	67.67
Filipinos.....	693	659	1,352	54.93
Spaniards.....	3	2	5	30.13
Other Europeans.....	2	4	6	62.78
Chinese.....	30	31	61	49.25
All Others.....	4	3	7	37.73
Total and average.....	748	701	1,449	53.98

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS
[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MERIC:							
1. Tondo.....	182	190	372	9	14	23	395
2. San Nicolas.....	33	45	78	5	5	10	88
3. Binondo.....	23	28	46				46
Total.....	238	258	496	14	19	33	529
No. II, SAMPALOC:							
4. Santa Cruz.....	111	77	188	3	7	10	198
5. Quiapo.....	28	18	41	1	2	3	44
6. San Miguel.....	12	9	21	1	1	2	23
7. Sampaloc.....	106	98	204	4	12	16	220
Total.....	257	197	454	9	22	31	485
No. III, PACO:							
8. Port Area.....	2		2				2
9. Intramuros.....	89	26	65	1	1	2	67
10. Ermita.....	46	27	73	2	3	5	78
11. Malate.....	69	77	146	2	3	5	151
12. Paco.....	35	36	71	1	3	4	75
13. Pandacan.....	12	13	25	1		1	26
14. Santa Ana.....	19	15	34	1	1	2	36
Total.....	222	194	416	8	11	19	435
Grand total.....	717	649	1,366	31	52	83	1,449

Attended by physicians, living, 482; stillbirths, 20.

Attended by midwives, living, 86; stillbirths, 1.

Attended by families, living, 981; stillbirths, 24.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	3	1	4	15.04
Filipinos.....	378	320	698	28.36
Spaniards.....	4	1	5	30.13
Other Europeans.....		1	1	10.46
Chinese.....	26	3	29	19.14
All Others.....	2		2	10.79
Total and average.....	413	326	739	27.53

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	155	109
Divorced.....		
Widowed.....	35	58
Single.....	306	210
Conditions not stated.....		
Total.....	496	377
Grand total.....	873	

Stillbirths.....	45
Number of deaths with medical attendance.....	529
Number of deaths without medical attendance.....	344

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	112	86	18	10	226
1 year plus	37	30	4	4	75
2 years plus	21	16	2	3	42
3 years plus	11	8	2	2	23
4 years plus	9	5	2	1	17
5 to 9 years	16	5	1	6	28
10 to 14 years	7	7	1	1	16
15 to 19 years	8	12	6	2	28
20 to 24 years	14	10	3	3	30
25 to 29 years	26	13	12	3	54
30 to 34 years	17	10	3	2	32
35 to 39 years	15	23	4	3	45
40 to 44 years	16	10	7	1	34
45 to 49 years	16	20	5		41
50 to 54 years	19	10	2	1	32
55 to 59 years	16	10	4	2	32
60 to 64 years	12	6	4	2	24
65 to 69 years	8	5	1	1	15
70 to 74 years	14	9		1	24
75 to 79 years	4	6	1	2	13
80 to 84 years	8	13			21
85 to 89 years	2	4	1		7
90 to 94 years	1	3			4
95 to 99 years	3	4			7
100 years and over	1	1			2
Age not stated					
Total	413	326	83	50	872

NOTE: One (1) female, Filipina, 80 years of age, permanent residence unknown, not included in the above table.

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I, MEISIC:			
1. Tondo	137	117	254
2. San Nicolas	13	28	41
3. Binondo	18	6	24
Total	168	151	319
No. II, SAMPALOC:			
4. Santa Cruz	59	44	103
5. Quiapo	15	9	24
6. San Miguel	8	2	10
7. Sampaloc	78	55	133
Total	160	110	270
No. III, PACO:			
8. Port Area	2		2
9. Intramuros	10	12	22
10. Ermita	8	7	15
11. Malate	38	18	56
12. Paco	15	15	30
13. Pandacan	5	8	13
14. Santa Ana	7	5	12
Total	85	65	150
Grand total	413	326	739

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Euro- peans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
	a. Typhoid fever.....			3	6	1					1			11
5	Malaria:													
	a. Malarial fever.....			2	1									3
7	Measles.....			1	1									2
10	Diphtheria.....			1	2									3
11	Influenza:													
	a. With pulmonary complications specified.....			6	2									8
	b. Without pulmonary complications specified.....			2	2					1				3
14	Asiatic cholera.....			2										2
16	Dysentery:													
	a. Amoebic.....			2	1									3
	b. Bacillary.....			6										6
	c. Unspecified or due to other causes.....			3	1									4
21	Erysipelas.....													2
29	Tetanus:													
	a. Umbilical.....			1	2									3
	c. Others.....			3										3
31	Tuberculosis of the respiratory system.....			74	81				1	5				161
32	Tuberculosis of the meninges and central nervous system.....			3	4	1								9
33	Tuberculosis of the intestines and peritoneum.....			4	6					1				11
34	Tuberculosis of the vertebral column.....			1	1									2
37	Disseminated tuberculosis:													
	b. Chronic or unspecified.....			1	1									2
38	Syphilis.....													1
43-69	<i>II. General diseases not included in class I</i>													
44	Cancer and other malignant tumors of the stomach, liver.....													
46	Cancer and other malignant tumors of the female genital organs.....			2	1									3
49	Cancer and other malignant tumors of other or unspecified organs.....													1
52	Chronic rheumatism, osteoarthritis, gout.....			1										1
56	Beriberi:			2	3									5
	a. Infants.....			24	24									48

106	Asthma.....	1	1	1	1
107	Other diseases of the respiratory system (tuberculosis excepted): c. Others under this title.....	1			1
108-127	<i>VI. Diseases of the digestive system</i>				
111	Ulcer of the stomach and duodenum:				
	a. Ulcer of the stomach.....	2		1	3
112	Other diseases of the stomach (cancer excepted).....	1			2
113	Diarrhea and enteritis (under 2 years of age).....	12			19
114	Diarrhea and enteritis (2 years and over).....	12		1	16
116	Diseases due to other intestinal parasites:				
	c. Nematodes (other than ancylostoma).....	4		3	7
117	Appendicitis and typhlitis.....	1			5
118	Hernia, intestinal obstruction:				
	b. Intestinal obstruction.....	2			4
124	Other diseases of the liver.....	2		1	3
128-142	<i>VII. Nonvenereal diseases of the genito urinary system and annexa</i>				
128	Acute nephritis (including unspecified under 10 years of age).....	7		5	13
129	Chronic nephritis (including unspecified under 10 years and over).....	15		5	21
131	Other diseases of the kidneys and annexa.....	2		2	2
132	Calculi of the urinary passages.....	1		1	1
143-150	<i>VIII. The puerperal state</i>				
144	Puerperal hemorrhage.....			1	1
145	Other accidents of labor:				
	a. Cesarean section.....	1		1	1
146	Puerperal septicemia.....	2		2	2
148	Puerperal albuminuria and convulsions.....	1		1	1
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>				
151	Gangrene.....	1			2
152	Furuncle.....	1		1	1
153	Acute abscess.....	1			1
154	Other diseases of the skin and annexa.....	2			2
155-158	<i>X. Diseases of the bones and of the organs of locomotion</i>				
155	Diseases of the bones (tuberculosis excepted).....			1	1
159	<i>XI. Malformations</i>				
159	Congenital malformations (stillbirths not included): b. Congenital malformations of the heart.....	1			1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus and sclerema			25	15					2				42
161	Premature birth; injury at birth:													
	a. Premature birth (not stillborn)			3	3									6
	b. Injury at birth (not stillborn)				1									1
162	Other diseases peculiar to early infancy			2	2									4
	<i>XIII. Old age</i>													
164	Senility			12	20									32
165-203	<i>XIV. External causes</i>													
179	Accidental burns (conflagration excepted)				1					1				2
182	Accidental drowning			2										2
186	Accidental traumatism by fall	1		3								1		3
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													4
	f. Injuries by other vehicles			1										1
	Total	3	1	378	320	4	1		1	26	3	2		739
	Grand total	4		698		5		1		29		2		739

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list num- bers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>											
1	Typhoid and paratyphoid fever:											
5	a. Typhoid fever.....			5								5
6	a. Malarial fever.....				1							5
10	Diphtheria.....			4	1							1
11	Influenza.....			1								1
14	a. With pulmonary complications specified				1							1
16	Asiatic cholera.....			9	8							17
	Dysentery:											
	b. Bacillary.....				2							2
	c. Unspecified or due to other causes			1								1
21	Erysipelas.....				1							1
24	Meinococcus meningitis.....			1								1
28	Rabies.....			1								1
29	Tetanus:											
	a. Umbilical.....			1								1
	b. Others.....			3								3
31	Tuberculosis of the respiratory system.....			11	3					1		15
32	Tuberculosis of the meninges and central nervous system.....			1	1							1
33	Tuberculosis of the intestines and peritoneum.....			1								1
43-69	<i>II. General diseases not included in class I</i>											
43	Cancer and other malignant tumors of the buccal cavity.....			1								1
44	Cancer and other malignant tumors of the stomach, liver.....				1							1
55	Beriberi:											
	a. Infants.....			4	3							7
56	Rickets.....			1	1							2
58	Anemia, chlorosis:											
	a. Pernicious anemia.....			1	1							1
59	Diseases of the pituitary gland.....			1								1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
70-86	<i>III. Diseases of the nervous system and of the organs of special sense</i>												
71	Meningitis:												
	b. Nonepidemic cerebrospinal meningitis.....				1								1
74	Cerebral hemorrhage, apoplexy:												
	a. Cerebral hemorrhage.....			2	1								3
77	Other forms of mental alienation.....				1								1
78	Epilepsy.....			1									1
87-96	<i>IV. Diseases of the circulatory system</i>												
88	Endocarditis and myocarditis (acute).....				1								1
90	Other diseases of the heart.....							1					1
91	Diseases of the arteries:												
	b. Arteriosclerosis.....									1			1
94	Diseases of the lymphatic system (lymphangitis, etc.)			1									1
97-107	<i>V. Diseases of the respiratory system</i>												
99	Bronchitis:												
	a. Acute.....			2									2
	b. Chronic.....			2	1								3
100	Bronchopneumonia:												
	a. Bronchopneumonia.....			6	8					1			15
101	Pneumonia:												
	a. Lobar.....			5	1								6
102	Pleurisy.....			1									1
108-127	<i>VI. Diseases of the digestive system</i>												
112	Other diseases of the stomach (cancer excepted)												
113	Diarrhea and enteritis (under 2 years of age).....			2						1			1
114	Diarrhea and enteritis (2 years and over).....			1						1			3
118	Hernia, intestinal obstruction:												
	b. Intestinal obstruction.....												1
124	Other diseases of the liver.....			2	2								4
				1									1

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
14. Asiatic cholera					1	1
16. Dysentery:						
b. Bacillary					1	1
21. Erysipelas					3	3
29. Tetanus:						
a. Umbilical				3	1	4
32. Tuberculosis of the meninges and central nervous system					1	1
55. Beriberi				7	48	55
56. Rickets					3	3
59. Diseases of the pituitary gland					1	1
71. Meningitis:						
a. Simple meningitis					1	1
b. Nonepidemic cerebrospinal meningitis					2	2
74. Cerebral hemorrhage, apoplexy:						
a. Cerebral hemorrhage					1	1
99. Bronchitis:						
a. Acute					27	27
b. Chronic					8	8
100. Bronchopneumonia:						
a. Bronchopneumonia					37	37
b. Capillary bronchitis					1	1
112. Other diseases of the stomach (cancer excepted)					1	1
113. Diarrhea and enteritis					14	14
116. Diseases due to other intestinal parasites:						
c. Nematodes (other than ancylostoma)					2	2
118. Hernia, intestinal obstruction:						
b. Intestinal obstruction					1	1
128. Acute nephritis					3	3
129. Chronic nephritis					1	1
154. Other diseases of the skin and annexa					2	2
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart	1					1
160. Congenital debility, icterus, and sclerema	7	6	1	19	10	43
161. Premature birth; Injury at birth:						
a. Premature birth (not stillborn)	6					6
b. Injury at birth (not stillborn)	1					1
162. Other diseases peculiar to early infancy	1	1		1	2	5
Total	16	7	1	30	172	226

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	23,343
Number of rats caught by spring traps	2,633
Number of cage wire traps set	682
Number of rats caught by cage wire traps	11
Number and kind of baits (coconuts)	24,026
Number of poison portions placed	13,859
Number of rats found poisoned	122
Number of rats killed by clubs and other weapons	402
Number of rats found dead from other causes	502
Total number of rats otherwise caught, found dead, or killed	3,670
Total number of rats sent to the laboratory for examination	3,670
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JANUARY, 1926, CITY OF MANILA

31

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1.	4		3	1				4		3	1	7	1
	No. 2.	1		1	2				1		1	2	2	2
	No. 3.													
	No. 4.	3	1	2	1			3	1	2	1	5	2	2
II.	No. 5.			2	1					2	1	2	1	1
	No. 6.													
	No. 7.	4	1	6	2			4	1	6	2	10	3	3
	No. 8.			1						1		1	1	1
III.	No. 9.	1	1					1	1	1		1	1	1
	No. 10.	1		2	1			1	1	2		3	3	1
	No. 11.	5	1					5	1			5	1	1
	No. 12.										1	1	1	1
	No. 13.			1							1		1	
	No. 14.													
Total.	19	4	18	7			1		19	4	19	7	38	11

REMARKS:

Cases confirmed as typhoid fever.....	38
Cases confirmed as paratyphoid fever.....	0
By autopsy.....	0
By blood culture.....	0
By widal reaction.....	9
By urine examination.....	0
By feces examination.....	1
By clinical symptoms.....	28
Cases reported among non-residents not included in the table.....	20
Deaths reported among non-residents not included in the table.....	5
Typhoid carrier—8	

DYSENTERIES REPORTED DURING THE MONTH OF JANUARY, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female			Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths			
I.																				
No. 1.....	3	1		1			4	4					7	5		1			8	5
No. 2.....							1	1					1	1					1	2
No. 3.....	1	1											1	1					1	1
No. 4.....	2												2			1			3	
No. 5.....	1												1						1	
No. 6.....																				
No. 7.....																				
No. 8.....							1	1					1	1					1	1
No. 9.....																				
No. 10.....							2	1					2	1					2	1
No. 11.....	1						1						1						1	1
No. 12.....																1	1		1	1
No. 13.....																				
No. 14.....	1	1											1	1					1	1
Total.....	9	3		1	1		9	8		2	1		18	11		3	2		21	13

REMARKS:

Amoebic dysentery.....

Bacillary dysentery.....

Unspecified.....

Cases reported among non-residents not included in the table.....

Deaths reported among non-residents not included in the table.....

Dysentery carrier—1

5
6
10
16
3

CHOLERA REPORTED DURING THE MONTH OF JANUARY, 1926, CITY OF MANILA

CONFIRMED CASES

33

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.	1		2						1		2		3
	No. 2.													
	No. 3.													
	No. 4.	1	1						1	1	1		2	1
	No. 5.													
	No. 6.													
	No. 7.	2		1	1				2		1	1	3	1
	No. 8.	1							1				1	
	No. 9.			1							1		1	
	No. 10.													
	No. 11.													
	No. 12.	1	1	1	1				1	1	1	1	2	2
	No. 13.	1							1				1	
	No. 14.													
Total.	7	2	6	2					7	2	6	2	13	4

REMARKS:

Among the 68 non-residents cases from the provinces brought to Manila for treatment, 17 of them died in the hospital.

Cholera carrier—82

DIPHtheria REPORTED DURING THE MONTH OF JANUARY, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female			Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths			
I.....	No. 1.....	1		2									1			2			3	2
	No. 2.....	2	1	1	1								2	1		1			3	
	No. 3.....																			
	No. 4.....	1		1									1			1			2	
II.....	No. 5.....																			
	No. 6.....																			
	No. 7.....			1	1											1	1		1	1
	No. 8.....																			
III.....	No. 9.....	1											1						1	
	No. 10.....			1												1				
	No. 11.....	1											1						1	
	No. 12.....																			
	No. 13.....																			
	No. 14.....	2											2						2	
Total.....	8	1		6	2								8	1		6	2		14	3

REMARKS:
Cases reported among non-residents not included in the table..... 5
Deaths reported among non-residents not included in the table..... 1
Diphtheria carrier—2

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF JANUARY, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	15	2	2	1
Varicella.....	39	32		
Varioloid.....				
Smallpox.....				
Measles.....	16	17	1	1
Whooping cough.....				
Influenza.....	18	6	9	2
Bubonic plague.....				
Encephalitis lethargica.....	1			
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	145	139	79	82
Tuberculosis of all forms.....	12	13	12	12
Beriberi, infantile.....	24	24	24	24
Beriberi, adult.....				

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	40	3	4	1
Varicella.....	22	5		
Varioloid.....				
Smallpox.....		1		1
Measles.....	12	4		
Whooping cough.....	1			
Influenza.....	8	2		1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	1		1	
Pulmonary tuberculosis.....	28	14	12	3
Tuberculosis of all forms.....	2	1	1	1
Beriberi, infantile.....	4	3	4	3
Beriberi, adult.....	2			

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF JANUARY, 1926**

Sera and vaccines	On hand January 1, 1926	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Antidiphtheric serum (units).....	135,000	500,000	635,000	420,000	215,000
Antidysenteric serum (ampoules).....	98		98	12	81
Antitetanic serum (units).....	480,000	44,000	524,000	204,000	320,000
Cholera serum (ampoules).....		2	2	2	
Cholera vaccine (c. c.).....		542,460	542,460	536,540	5,920
Dried vaccine virus (units).....	56,900	83,550	140,450	96,400	44,050
Fresh vaccine virus (units).....	103,700	200,000	303,700	204,800	98,900
Gonococcus vaccine (ampoules).....		50	50	50	
Mixed typhoid-cholera vaccine (c. c.).....		62,960	62,960	62,960	
Typhoid vaccine (c. c.).....	7,130	6,000	13,130	9,000	4,130

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1926

Health districts	Municipal districts	Vaccinations				Inspection of persons vaccinated						Total
		Total vaccinations	Previously vaccinated			Under 1 year		1 to 4 years		5 years and over		
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Positive	Negative	
No. 1.	Tondo.....	401	316	46	39	213	2	10	4	223	6	
	San Nicolas.....	87	85	2	48	45	2	2		50		
	Binondo.....	356	158	134	163	130		17	6	64	8	
	Santa Cruz.....	303	158	95	50	130		22	25	178	25	
	Quisapo.....	32	28	4		14		2	1	16	1	
No. 2.	San Miguel.....	14	13	1	1	9		1		1	1	
	Sampaloc.....	512	203	230	79	139	1	26	1	40	19	
	Port Area.....											
	Intramuros.....	56	55			42	2			42	2	
	Ermita.....	290	117	149	24	73		8	1	81	1	
No. 3.	Malate.....	135	100	31	4	56	1	1		57	1	
	Paco.....	39	33	3	3	36				36		
	Pandacan.....	30	30			21		1		22		
	Santa Ana.....	20	20			15				15		
	Total.....	2,274	1,217	692	365	841	8	90	13	69	45	1,000	66

Vaccine virus:
 Received 10,600
 Used 6,350
 Remained 4,250

ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1926

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.....	355	268	99	123	454	391
	San Nicolas.....	919	164	133	36	1,052	200
	Binondo.....	246	308	36	43	282	351
	Total.....	1,520	740	268	182	2,510	942

No. 2	Santa Cruz	114	232	129	243	354
	Quilapo	61	52	20	42	72
	San Miguel	32	30		32	30
	Sampaloc	13	64	18	13	82
No. 3	Port Area					
	Intramuros	243	58	3	10	246
	Ermita	391		20	411	68
	Malate	12	31	24	12	55
	Paco					
	Pandacan					
	Santa Ana	14	57	69	73	130
	Total	2,400	1,264	510	469	2,910
						1,783

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF JANUARY, 1926¹

Health districts	Municipal districts	Number of injections made in--										Total number of injections					
		Adults					Children					First			Second		
		First injections		Third injections		Second injections		First injections		Second injections		Third injections		First		Second	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. I	Tondo	412		323		500		186		171		243		598		494	
	San Nicolas	379		467		691		97		190		379		417		667	
	Binondo	543		186		283		31		72		65		634		258	
	Santa Cruz	409		163		297		190		130		994		599		283	
	Quilapo	195		82		64		20		32		27		215		84	
No. II	San Miguel	26		201		171		2		22		52		28		2	
	Sampaloc	293		255		341		7		329		994		7		583	
	Port Area									4						4	
	Intramuros	58		72		13		21		3		4		58		190	
	Ermita	21				10								31		20	
No. III	Malate	54		6		131		20				54				6	
	Paco	175		321		369		66		141		175		241		462	
	Pandacan																
	Santa Ana	35		32		205		15		13		280		50		45	
	Total	58	2,711	22	2,078	13	3,117	7	1,008	4	1,103	3,267	65	3,719	26	3,181	13
																	6,384

¹ Mixed typhoid and cholera vaccine used for the first and second injections.
Typhoid and paratyphoid vaccine used for the third injections.
V, in persons never vaccinated before; R, revaccinations.

CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM THE PROVINCES DURING THE MONTH JANUARY, 1926

Provinces	Vaccinations			Inspection of persons vaccinated								
	Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over		Total		
		Never	Success-fully	Unsuccess-fully	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	10,766	1,135	7,412	2,219	168	85	1,010	266	2,626	1,303	3,804	1,654
Albay.....	3,279	1,233	435	1,611	588	149	427	102	341	139	1,356	390
Antique.....	7,882	1,388	4,551	1,943	244	31	818	330	2,560	3,182	3,622	3,543
Bataan.....	3,976	300	304	372	176	22	362	131	137	112	675	265
Bohol.....	4,431	932	1,661	1,838	519	109	672	241	1,298	951	2,489	1,301
Bulacan.....	12,592	2,131	9,442	1,019	564	52	936	280	3,929	3,220	5,429	3,552
Camaringes Sur.....	9,189	912	6,807	1,470	157	8	815	143	3,184	907	4,156	1,058
Capiz.....	11,604	2,368	8,165	1,071	337	114	1,137	114	5,340	1,700	6,814	1,814
Isabela.....	3,749	852	2,060	837	54	27	208	77	532	362	794	466
Mindoro.....	8,959	1,643	6,115	1,201	151	3	755	42	3,196	1,498	4,102	1,543
Misamis.....	7,028	1,211	3,803	2,014	108	4	498	69	2,140	1,363	2,746	1,435
Nueva Ecija.....	3,719	1,006	1,048	1,665	363	45	815	187	948	668	2,126	900
Nueva Vizcaya.....	6,881	562	5,809	510	227	3	975	269	3,681	2,791	4,883	3,063
Pampanga.....	5,054	813	2,477	1,764	198	48	394	129	1,089	557	1,681	734
Samar.....	10,533	1,623	7,611	1,299	207	28	1,515	136	2,890	693	4,612	857
Sulu.....	774	530	43	201	8	2	151	38	226	45	385	85
Surigao.....	4,232	1,204	1,345	1,683	78	42	424	230	1,279	1,312	1,781	1,584
Tarlac.....	2,590	615	1,482	493	320	75	600	185	551	555	1,471	815
Tayabas.....	4,115	1,804	1,020	1,291	466	85	922	184	1,148	623	2,536	892
Total.....	118,353	22,262	71,590	24,501	4,933	818	13,434	3,153	37,095	21,981	55,462	25,952

Incomplete: reports from other provinces not yet received.
Vaccinations performed by the Vaccinating Parties are included in the above table.

CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE RECEIVED FROM THE PROVINCES DURING THE MONTH OF JANUARY, 1926¹

Provinces	First injections	Second injections	Third injections	Total
Agusan.....				
Albay.....	3,415			3,415
Antique.....	6,065			6,065
Bataan.....	12,603			12,603
Batangas.....	85,146			85,146
Bulacan.....	813	340		1,153
Capiz.....				
Catanduanes.....				
Cavite.....	11,527			11,527
Ilocos Norte.....	8,303			8,303
Laguna.....	11,757			11,757
Lanao.....				
La Union.....	333	124		457
Marinduque.....				
Nueva Ecija.....	8,075			8,075
Pampanga.....	17,682	488		18,170
Pangasinan.....	92,217			92,217
Rizal.....	75,699			75,699
Sulu.....				
Tarlac.....				
Tayabas.....				
Total.....	283,635	952		284,587

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE RECEIVED FROM THE PROVINCES DURING THE MONTH OF JANUARY, 1926¹

Provinces	First injections	Second injections	Third injections	Total
Agusan.....				
Albay.....				
Antique.....				
Bataan.....				
Batangas.....				
Bulacan.....				
Capiz.....				
Catanduanes.....				
Cavite.....				
Ilocos Norte.....				
Laguna.....				
Lanao.....				
La Union.....				
Marinduque.....				
Nueva Ecija.....				
Pampanga.....	83	74		157
Pangasinan.....				
Rizal.....				
Sulu.....				
Tarlac.....				
Tayabas.....				
Total.....	83	74		157

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA)
VACCINE RECEIVED FROM THE PROVINCES DURING THE MONTH
OF JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Agusan.....	1,791	641	.....	2,432
Albay.....				
Antique.....				
Bataan.....				
Batangas.....				
Bulacan.....				
Capiz.....	17,047			17,047
Catanduanes.....				
Cavite.....				
Ilocos Norte.....				
Laguna.....				
Lanao.....	812	260		572
La Union.....				
Marinduque.....	490	102		592
Nueva Ecija.....				
Pampanga.....	96	39		135
Pangasinan.....				
Rizal.....				
Sulu.....				
Tarlac.....	15,972			15,972
Tayabas.....	8,530	1,354		4,884
Total.....	89,238	2,396	.....	41,634

¹ Incomplete; reports from other provinces not yet received.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE
MONTH OF JANUARY, 1926**

(No case and no death reported during the month)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF JANUARY, 1926**

Provinces and towns	Cases	Deaths
BATAAN:		
Orion.....	1	1
BATANGAS:		
Calaca.....	1	1
Ibaan.....	2	2
BULACAN:		
Paombong.....	7	6
LAGUNA:		
Bifan.....	11	8
San Pablo.....	6	5
LAYTE:		
Tacloban.....	2	2
MINDORO:		
Agsalin.....	8	11
Pinamalayan.....	44	36
PAMPANGA:		
Bacolor.....	14	13
Candaba.....	5	2
Lubao.....	2	2
Macabebe.....	2	2
Sermoan.....	2	2
Santa Ana.....	1	.....
RIZAL:		
Calocan.....	1	2
Muntinglupa.....	1	1
Pasig.....	27	22
Pateros.....	18	7
San Felipe Nery.....	4	2
Taguig.....	34	13
Taytay.....	1	1
Teresa.....	7	4
ROMBLON:		
Romblon.....	17	13
Total.....	218	158

REMARKS: Cases and deaths from the province of Rizal brought to Manila for treatment are included in this table.

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF JANUARY, 1926**

	Health districts			
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	Total
Orders pending, January 1, 1926:				
Minor.....	139	77	102	318
Sewer.....	21	59	7	87
Vacating.....	13	14	9	36
Filling.....	10	31	18	54
Total.....	183	181	131	495
Orders issued during the month:				
Minor.....	6	16	17	39
Sewer.....	2		1	3
Vacating.....				
Filling.....		3		3
Total.....	8	19	18	45
Orders completed during the month:				
Minor.....	30	12	12	54
Sewer.....		4		4
Vacating.....	5			5
Filling.....				
Total.....	35	16	12	63
Orders cancelled during the month:				
Minor.....		1		1
Sewer.....				
Vacating.....				
Filling.....				
Total.....		1		1
Orders pending, January 31, 1926:				
Minor.....	115	80	107	302
Sewer.....	23	55	8	86
Vacating.....	8	14	9	31
Filling.....	10	34	18	62
Total.....	156	183	137	476
Strong material plans approved:				
New buildings including additions and alterations.....	27	41	40	108
Permits for minor building construction:				
Approved.....	27	43	40	110
Disapproved.....	9	6	6	21
New buildings completed.....	18	40	37	95
Permits for light and mixed material constructions:				
Approved.....	6	15	29	50
Disapproved.....	5	3	8	16
Prosecutions:				
Convictions.....			1	1
Dismissals.....	15	2		17
Amount of fines.....			P10	P10
Plumbing permits issued.....	38	56	32	126
Plumbing projects completed.....	30	60	23	113
Premises connected to the sanitary sewer to December 31, 1925.....	2,457	4,182	545	7,184
Connected during the month.....	2	8	5	15
Total.....	2,459	4,190	550	7,199

NOTE.—Meisic includes Tondo, San Nicolas, and Binondo. Sampaloc includes Santa Cruz, Quiapo, and San Miguel. Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.



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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

FEBRUARY, 1926

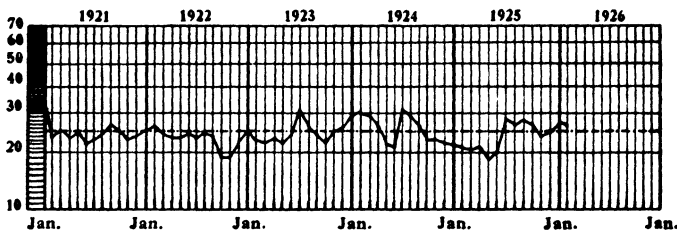
No. 2

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

FEBRUARY, 1926

No. 2

THE NURSING PROFESSION AND THE GOVERNMENT

(Greetings to "The Class of 1926")

By **JACOBO FAJARDO**

Director of Health

I desire to greet you, men and women, for having selected a profession dedicated to the service of your fellowmen. I desire to greet you as the soldiers of peace: as those who meet not in the storm of battle, not when bands play with banners unfurled and great patriotic sentiment drives men onward to perform solemn duties for the fatherland, to die as martyrs beneath their flag, but as those who in the every-day ways of life, in the quiet break of day, in the noonday heat, and in the darkness and silence of the night, with their brothers the physicians, meet the foes of humanity, meet death as it talks abroad through the land, constantly faces the problems which, if solved right, will mean great good for the country and great things for the welfare and happiness of the people, and which, if solved wrong, may mean catastrophe and ruin.

Progress in matters of public health and the consequent advance of our people on the road to prosperity will, in some not remote future, be largely accomplished thru the instrumentality of your noble profession. But let not these words of encouragement and sincere goodwill lull you to inactivity by thinking of past victories and future possibilities. As a veteran in many a well-fought field in the great drama of life, let me warn you against some of the pitfalls in your chosen career.

Before 1915, the demand for the ministrations of the nursing profession was so large in private as well as in the public service

that the present Governor-General, realizing the situation, encouraged the training of many more nurses. I remembered that, in order to provide nursing personnel for the Department of Mindanao and Sulu then, I had to come to Manila about three times a year, and considered myself and the Service very lucky if two or even one nurse could be secured and induced to come to meet partially the requirements of my division.

Now, as American slang expresses it, "them days are gone." After having served at the head of the Philippine Health Service for more than a year, I can tell you with absolute truth that my difficulty now is to provide positions for a very considerable number of applicants. To superficial observers, this situation is discouraging to the nursing profession for they may ask: "Does this mean that there are more nurses now than what are actually needed?" I earnestly believe, however, that the present number of nurses does not exceed, and is still very far from meeting, the demands of the community. I believe that the excess is only more apparent than real, because there are not enough positions in the Government service by reason of our too limited appropriation. Besides this fact, I have also observed that there is a marked tendency on the part of our young nurses, both men and women, to enter the Government service soon after graduation. Why? First, because the Government is in dire need of good public servants and the call for public service and sacrifice must have appealed to the hearts of a great many of them. That attitude is, indeed, very commendable. Answering the call of public service is honorable and well-nigh sacred. Personally, I would give every kind of encouragement there is to those who really have the inclination and the required qualification to shoulder the responsibility and deserve the public trust. We of the Health Service need you, and a great many of you.

Secondly very many of our young graduates perhaps might have acquired the belief in their students days that the only road to success and honor is to be able to occupy a position in the Government. They should not have taken this attitude wholly; for while it is laudable and honorable to hold a position of trust as a nurse in the Government service, still one may succeed and be respected and honored as well in private practice. The one requisite is to do one's duty irreproachably well. In this connection, I need not mention to you the names of those nurses whose distinguished services live in the memory of the people.

Thirdly, a certain number of graduates look up to the Government as a good stepping-stone to private practice. In other words, they want a sure, stable income as a basis wherewith to begin their private enterprises. Those belonging to this group have not seemingly as yet fully decided on the course they are to follow in life. They may either become successful private practitioners at the expense of poor Juan de la Cruz, or they may become truly efficient public servants—and, in the latter case, only after they shall have fully realized the real meaning of public service. It is well for those that follow the latter course, but those that follow the former will not be giving poor Juan a “square deal.”

Fourthly, there are nurses—and this fact is also true with other professions as well—who may have found it trying and tiresome to engage in private practice. They might have failed thru lack of personality, tact, energy, ability, courage, persistence, and true devotion to duty, qualities which constitute some of the fundamental elements necessary to success. Some nurses may not want to work hard enough and possibly think that they can secure a sinecure in the Government. There are no such swivel-chair positions in the Government service and persons that fall under this fourth category of “soft-job seekers” are not wanted anywhere.

As to the rank and file of the nurses of the Philippines, I may say that they have passed in swift succession during the past few years through severe trials brought by calamities and epidemics. To the courage, endurance, and fine spirit of devotion with which they as a body have met these crises, no poor word of mine can ever pay a fitting tribute.

PRELIMINARY REPORT OF MALARIA INVESTIGATION AT PAYSAWAN, BAGAC, BATAAN

1. The malaria investigation was conducted from January 7 to 10, 1925, following a special order of the Director of Health.
2. According to the report, malaria is predominant in Paysawan. During December, 1924, fourteen malaria patients were admitted in the Emergency Hospital of the Cadwallader-Gibson Lumber Company, of whom three died. Ten malaria cases among laborers and barrio people were found. In the primary school, the attendance was reduced to half because of malaria. More than 90 per cent of school-children have enlarged spleen. More than 90 per cent of the barrio people do not use mosquito-nets. The percentage of mortality from malaria in Bagac, of which Paysawan is a barrio, is 23.91 per cent in 1924. Talks on sanitation and on malaria were given. Major Hitchens of the U. S. Medical Corps and Doctor Gallemore of the Company also gave talks on malaria. About 400 people attended.
3. The President of the Municipal Board of Health of Bagac has temporarily been detailed at Paysawan to make a daily house-to-house inspection and to see to it that every person takes, in his presence, quinine for curative and preventive purposes. He is also to take charge of sanitation in the locality. The Assistant Engineer directs the work of cleaning up the ditches and treating them with Paris Green under the supervision of Mr. Meldaizes of the Rockefeller Foundation.

Following Special Order No. 1, paragraph 11, dated January 5, 1925, of the Director of Health, Assistant Sanitary Engineer Luis Claustro and the undersigned, with Senior Surgeon Jose Arevalo, district health officer of Bataan, left Manila on January 7, 1925, at 7 a. m., for Paysawan, Bagac, Bataan, and arrived there at 5 p. m. of the same day. Assistant Sanitary Inspector Miguel del Rosario was left, because he did not come before the sailing of the boat. The party was met by Major Hitchens of the Medical Corps of the United States Army, Mr. Solberg, manager of the Cadwallader-Gibson Lumber Co., Doctor Gallemore of the Company, and Mr. Meldaizes, sanitary engineer of the Rockefeller Foundation. Doctor Arevalo and Mr. Claustro were given their lodgings at the Mess Hall of the Company and the undersigned at the Military Camp with Major Hitchens.

1. THE CONDITIONS ACTUALLY FOUND

The barrio of Paysawan can be divided into two parts: the Camp which belongs to the Company, and the Aplaya barrio in which the Company does not have any jurisdiction.

The camp has about 250 employees and workers. It has an emergency hospital of about 40 beds. The sick workers are hospitalized there. Several sick employees are also sent to Corregidor, or to St. Luke's Hospital at Manila. During the month of December, 1924, this hospital admitted 21 patients. A total of 14 admissions was that of malaria, whereof three died of the same disease. On the arrival of the party, two malaria cases were found in the hospital.

Doctor Gallemore visits the houses of the laborers from time to time. He sends malaria patients to the hospital, where they are given the regular antimalaria treatment. However, some patients do not want to be hospitalized, and neither do they want to take quinine. The Company has to order such people to go away from the camp, and they go to live in the Aplaya barrio. In some cases, the malaria patients hide themselves in the woods belonging to the camp and then only report when they are already in a grave condition.

In the municipality of Bagac, Bataan, a total of 11 deaths was registered. This number gives 22.64 per cent as compared with total number of deaths, or 5.39 per cent for each 1,000 of population in 1923; and 23.91 per cent as compared with total number of deaths, or 5.89 per cent, to each 1,000 of population in 1924.

In the primary school, during the months from July to September, 1924, there was about 90 per cent attendance; in October, 77 per cent; and in December, 55 per cent. There are two teachers in the locality. The woman teacher of the first and second grades is not holding her classes, because she is sick with malaria. Of the third- and fourth-grade pupils, 55 in number, about one-half only are able to come regularly to school. Of these, about 46 per cent have enlarged spleens. If those unable to go to school are also sick with malaria, and in all probabilities they are, it may then be stated that more than 90 per cent of these school children have enlarged spleens. This number indicates a high malaria-index in this locality.

In the camp are ditches dug by the Company, which empty either into the river or into the sea. Places of stagnant water in several places and in the ditches favorable for mosquito-breeding were found.

The Aplaya barrio is composed of about 40 houses grouped closely together, and it has about 500 people. As its name suggests, the *barrio* is situated near the seashore. They get

their water for drinking from the water-supply run thru pipes belonging to the Company.

According to a preliminary house-to-house inspections, more than 90 per cent do not use mosquito nets. The houses are crowded closely. Ten cases of malaria have been found. Some of these persons affirm that they contracted malaria in the locality, and some in municipalities where they came from. Many people are transients, and they go home as soon as they contract malaria at this place.

It seems that the majority of the cases are having the aestivo autumnal types of malaria. Major Hitchens has taken smears of some patients.

II. WHAT HAD BEEN DONE IN THE CAMP BEFORE THE ARRIVAL OF PARTY

Doctor Gallemore freely distributes quinine to the laborers of the company, but not to the people of the *Aplaya barrio*.

On December 30, 1924, Major Hitchens prepared a health leaflet entitled, "The Carnival and Malaria." This pamphlet was translated into the Tagalog and Ilocano languages and freely distributed to the camp and *barrio* people.

Sanitary Engineer Meldaizes of the Rockefeller Foundation has been and is treating swamps and ditches with Paris Green and coal oil mixed with sawdust. The Company has furnished Mr. Meldaizes two laborers who are cleaning up the ditches to get rid of the breeding-places for mosquitoes. Assistant Sanitary Engineer Claustro will supervise the work, besides the disinfection of the ditches and the collection of mosquitoes and larvae. The Company furnishes the disinfectants.

III. WHAT HAS BEEN DONE BY THE PARTY

It has been arranged that Doctor Gallemore is to take charge of sanitation in the camp and to distribute quinine among the laborers, while the Health Service authorities will do this work in the *Aplaya barrio*.

Two policemen furnished by the municipality of Bagac were employed to order the people to clean up their houses and surroundings in the *Aplaya barrio*, and the animals to be housed in closed sheds. On January 8, 1925, all people obeyed the sanitary orders, and the garbage was disposed of by burning.

The president of the municipal district of Bagac was placed to take charge temporarily of the sanitation of the entire *Aplaya barrio*. He was instructed to make a daily house-to-house inspection, to record each case of malaria, and to give

two five-grain quinine tablets to each adult patient and one five-grain quinine tablet to each child three times a day for a week, and then one tablet every night in each case for another week. The tablets should be distributed by him, and should be taken by the patients in his presence. As a prophylaxis, all people should be instructed to take one five-grain quinine tablet every night. He has also been instructed to see to it that the water-containers should be fitly covered, or they should be emptied once a week. He was also instructed to report this work to the district health officer of Bataan, and this officer in turn to the Director of Health from time to time. The 3,000 tablets of quinine and other medical supplies from the Central Office were placed in the house of the *teniente del barrio* under the charge of the president of the municipal health district of Bagac, who will freely distribute them to the people.

In the afternoon of January 8, 1925, the undersigned gave a vernacular talk on malaria to the school children of the third and fourth grades. At 8 p. m. of the same day, a conference was held at the south end of the Aplaya barrio. Authorities and prominent people of the barrio helped in persuading the people to attend the conference. The orchestra furnished by Mr. Fonacier contractor for the Company, drew in a big crowd. About 400 persons attended. Senior Surgeon Arevalo talked on the importance of the sanitation of any locality; Major Hitchens, Doctor Gallemore, and the undersigned talked on "Malaria and How to Prevent It." The talks of Major Hitchens and Doctor Gallemore were interpreted into Tagalog by the undersigned. The use of mosquito nets, the taking of quinine, and the filling up of low places were particularly emphasized. The conference became so interesting that several barrio prominent people asked many questions about sanitation and malaria. This conference was so planned in order to educate the ignorant masses on health matters, especially on malaria and on the importance of the use of quinine to get rid of this disease. The conference lasted until 10.30 p. m.

IV. RECOMMENDATIONS

1. A male nurse be regularly detailed at Paysawan during the months when malaria-incidence is high, or until the month of May, 1925. This nurse will take the place of the president of the municipal health district, and will do the work in a very efficient way. He will make a daily house-to-house inspection

and will see to it that every patient and every person takes quinine for treatment and as a prophylaxis in his presence.

2. The district health officer should be requested to make a regular inspection of the locality, and to report to the Director of Health on the progress of the work from time to time.

3. The male nurse should be requested to take blood-smears from all malaria cases, and the assistant sanitary engineer to collect mosquitoes at the houses of these patients. This task has for its aim the study of what species of mosquitoes transmit a particular type of malaria. These slides should be sent to the Central Office for microscopical diagnosis.

4. Health leaflets on malaria, written in the Tagalog, should be prepared for free distribution in the Aplaya barrio.

5. A copy of this report should be sent to the General Manager of the Cadwallader-Gibson Lumber Company, one to Major Hitchens, one to Mr. Solberg, local manager of the Company at Paysawan, and another to the district health officer of Bataan.

ACKNOWLEDGMENT

The undersigned, thru the Director of Health, thanks Major Hitchens and Doctor Gallemore, who so kindly furnished valuable information with regard to malaria conditions in the locality; Mr. Solberg, manager of the Company, and Mr. Tollman, who gave their disinterested attention to the party during their stay in Paysawan.

Respectfully submitted.

TEOFILO CORPUS

In Charge, Malaria Investigation

Paysawan, Bagac, Bataan

ON THE BIOLOGY OF VIBRIOS ISOLATED FROM VARIOUS SOURCES (Abstracts)

By M. V. ARGÜELLES, M.D.,

*Medical Inspector, P. H. S., Bacteriologist, San Lazaro
Hospital Laboratory, Manila*

Type determination was made on the following strains:

- (1) (S. L.) No. 131, from the mouth of the Pasig River, reported upon first isolation as "agglutinating vibrio."
- (2) (Doctor Navarro) No. 270, which was isolated from *alamang* by Doctor Navarro and very kindly given to me to form a part of this study.
- (3) (S. L.) No. 136, isolated from sea-water obtained opposite Velasquez Street, Tondo, reported as "nonagglutinating vibrio."
- (4) (S. L.) No. 140, from sea-water obtained one mile from the shore opposite Bankusay, reported as "nonagglutinating vibrio."
- (5) (S. L. No. 107, isolated from *alamang* obtained from Bulacan, reported as "nonagglutinating vibrio."
- (6) (S. L.) No. 69, obtained from deep sea-water opposite Baclaran, Rizal, south of the mouth of the Pasig River, reported as "agglutinating vibrio."
- (7) (S. L.) No. obtained from scalded shrimps, reported as "agglutinating vibrio."
- (8) (S. L.) No. 112, obtained from fish-washing at the Baliwag public market, reported as "nonagglutinating vibrio."
- (9) (S. L.) No. 79, obtained from sea-water and reported as "nonagglutinating vibrio."
- (10) (S. L.) No. 156, from sea-water, reported as "nonagglutinating vibrio."
- (11) (S. L.) No. 87, isolated from the feces of a clinical case of cholera, reported as "nonagglutinating vibrio."
- (12) (S. L.) No. 85, obtained from the intestinal contents at the outopsy of a clinical case of cholera, reported as "agglutinating vibrio."
- (13) *B. coli* used as control of gas-producing organisms.
- (14) *B. typhosus* used as control.

The type determination covered the following points:

1. Morphology.
2. Motility.
3. Sugar reaction.
4. Liquefaction on gelatin and coagulated serum.
5. Nitrose indol test.
6. Litmus milk.

7. Agglutination with five sera, namely:

- (1) Anticholera serum obtained from Kitasato Institute, Tokyo, Japan.
 - (2) Anticholera serum obtained from the Bureau of Science, Manila.
 - (3) Serum of a cholera convalescent whose feces showed what was reported as "agglutinating vibrio."
 - (4) Serum of a cholera convalescent whose feces showed what was reported as "nonagglutinating vibrio."
 - (5) Serum from a healthy normal person.
8. Bacteriolytic and bacteriocidal power.
 9. Production of hemolysis.
 10. Absorption of agglutinin using the foregoing five sera.
 11. Complement fixation using the five sera above.
 12. Virulence in pigeons.
 13. Virulence test on guinea pigs and the production of hypothermia and peritonitis in them.
 14. Formation of agglutinin in guinea pigs after the virulence test.
 15. Anticholera bacteriophage obtained from the feces of cholera convalescents.

1. *Morphology* of the various vibrios varied from long, slender, and slightly curved rods to coccoid or diplococcoid forms. The comma-shaped organisms were not found to be so frequent as had been first expected.

2. *Motility*.—The 12 strains showed typical vibrio motility.

3. *Sugar reaction*.—The sugars tested were dextrine, dextrose, dulcitol, galactose, lactose, levulose, maltose, mannitol, saccharose, rhamnose, and xylose. With the exception of strain 3, the cholera strains produced acid only in all sugars except dulcitol. Strain 3 produced acid and gas in lactose.

4. *Liquefaction*.—All the strains liquefied Leoffler's coagulated serum and gelatin, with the exception of strain 3 which did not liquefy.

5. *Nitrose indol test* was positive in all the cholera strains, with the exception of strain 3.

6. *Litmus milk*.—In litmus milk strains 1, 2, 4, 5, 6, 7, 9, 10, 11, and 12 produced acidity. Strains 2, 4, 6, 8, 9, 10, 11, and 12 produced acid with coagulation. Strain 3 showed alkalinity.

7. *Agglutination* with the following sera was made with each of the 12 strains; namely, the Kitasato serum, Bureau of Science serum, cholera convalescent agglutinating serum, cholera convalescent nonagglutinating serum, and serum from a normal person. Strains 1, 2, 5, 7, and 12 were agglutinable to the Kitasato serum up to $\frac{1}{5000}$ dilution; to the Bureau of Science,

up to $\frac{1}{1000}$; to the cholera convalescent agglutinating serum, up to $\frac{1}{5000}$; but were not agglutinable to the cholera convalescent nonagglutinating serum or to the normal serum. The remaining strains were nonagglutinable to the five sera.

8. *Bacteriolytic and bacteriocidal power tests* were made with each of the 12 strains combined with the five sera. Strains 1, 2, 4, 5, 6, 8, 9, 10, 11, and 12 showed changes in motility and morphology when exposed to the Kitasato serum. Strains 3 and 7 did not change in morphology. All cholera strains with the exception of strain 3 were either completely killed or showed decrease of growth when exposed to the Kitasato serum. The bacteriolytic and bacteriocidal power of the Bureau of Science serum was much weaker than was the Kitasato serum. The cholera convalescent agglutinating serum and cholera convalescent nonagglutinating serum showed very little or no bacteriolytic or bacteriocidal power. The complement control and serum controls also showed no bacteriolytic or bacteriocidal power.

9. *Hemolysis*.—The hemolytic power of the 12 antigens was tested against human and guinea pig blood. In each instance defibrinated blood and one per cent red cells were used for tube hemolysis. Hemolysis was also tested in blood agar prepared with whole blood and alkaline agar mixed at 45 degrees, C. The tube test showed variable results in the hemolytic power of the antigens. In the blood agar plates, 11 of the cholera strains were uniformly hemolytic to human and guinea pig blood. Strain 3 was nonhemolytic.

10. *Agglutinin absorption* was performed on the 12 antigens and it required 3 absorptions before the agglutinins could be absorbed from the Kitasato serum. With the other strains which were originally nonagglutinable, it was difficult to demonstrate whether or not they absorbed the agglutinin.

11. *Complement fixation* was performed with all the necessary controls; namely, the complement fixing power and the hemolytic power of each of the 12 antigens and the five sera; complement control; red cell control; amboceptor control. The complement fixation test showed that antigens 1, 2, 4, 7, 8, 9, and 12 possessed complement fixing power when mixed with any of the four cholera sera and none when mixed with the normal serum. Antigen 10 fixed the complement when mixed with Kitasato serum and the convalescent A. V. serum. An-

tigen 5 fixed the complement when combined with the Kitasato, Bureau of Science, and normal sera. It did not fix when combined with the convalescent N. A. V. serum. Antigen 11 fixed with the Kitasato serum only. Antigens 3, 6, and 14 (*B. typhosus*) did not fix the complement when combined with any of the four cholera serum. Antigen 13 (*B. coli*) fixed with N. A. V. and normal serum.

12. *Virulence in pigeons*.—Skin inoculation and intramuscular injection of antigens showed that they are very slightly or are not pathogenic at all in pigeons.

13. *Virulence in guinea pigs and the production of hypothermia and peritonitis*.—Three agglutinable and three nonagglutinable strains were used. These were injected intraperitoneally. The temperature and general condition of the guinea pig were observed for six days. Guinea pig 11, which recieved nonagglutinable vibrio isolated from a hospital case, died in less than 12 hours, showed congestion of the abdominal viscera with plenty of fluid in the peritoneum. A nonagglutinable vibrio was isolated from the peritoneal exudate and heart blood. One-tenth of one cubic centimeter of peritoneal fluid was injected to a second guinea pig intraperitoneally and the animal died in nine hours, with marked congestion of the abdominal viscera and abundant peritoneal fluid. The pleural and pericardial cavity also contained fluid. A nonagglutinable vibrio was isolated from the foregoing fluids, heart blood, and intestinal contents. The other guinea pigs showed weakness, lowering of temperature, but all recovered and looked normal six days after the injection.

14. *Agglutinin in the injected animals*.—Blood was obtained from the guinea pigs which recovered from the virulence test above and were agglutinated with the three agglutinable strains and three nonagglutinable strains. The serum of the guinea pig, which received strain No. 9, showed slight agglutination to the homologous strain and to strain No. 8 both originally reported as N. A. V. There was no agglutination detectable in the serum of the other guinea pig. This is an instance of a nonagglutinable strain producing agglutinin which can agglutinate the homologous strain and another originally nonagglutinable strain.

15. *Bacteriophage*.—The feces of two cholera convalescents were filtered and tested for the presence of any lytic substance (*d'Herelle bacteriophage*). There was none found.

By the foregoing method of type determination, the following results were obtained:

Summary of results

Strain	Original report	Source	Diagnosis
1.	A. V.	Pasig River.	C. V.
2.		Alamang	C. V.
3.	N. V. A.	Sea water	Not C. V.
4.	N. A. V.	Sea water	C. V.
5.	A. V.	Sea water	C. V.
6.	N. A. V.	Alamang	Undetermined
7.	A. V.	Shrimp.	C. V.
8.	N. A. V.	Fish washings.	C. V.
9.	N. A. V.	Sea water	C. V.
10.	N. A. V.	Sea water	C. V.
11.	N. A. V.	Cholera case.	C. V.
12.	A. V.	Autopsy	C. V.
13.	B. coli	Control.	Not C. V.
14.	B. typhosus	Control.	Not C. V.

MISCELLANEOUS

CAPIZ

Anticholera vaccination is going on. Changeable weather conditions are responsible for the increase of cases of the respiratory organs, which thou very mild in adults, were fatal in children because of poor handling of the cases. The district nurse is going around giving talks to mothers to remedy the situation in part.

ISABELA

Investigation showed that the increase of mortality in some municipalities was due to Influenza. Campaign for mixed cholera and typhoid. Antismallpox vaccinations, and campaign against yaws in the municipality of Ilagan.

Almost all the municipalities inspected registered an increase of mortality. This is due to the variable condition of the weather which is believed to be a probable factor in the number of deaths from complications of influenza. However, this increase has never taken an alarming course inasmuch as after a sudden increase, it immediately lowered to normal after a certain lapse of time.

LEYTE

General health conditions.—Twenty-three cases of dysentery have been registered in 13 municipalities. Varicella has also been reported in one municipality, with no death. The general health condition, however, remains good.

PERSONNEL

Dr. Marciano Carreon, assistant district health officer acted as resident physician of the Leyte Provincial Hospital during the absence of the incumbent.

TARLAC

Vaccination campaign has been carried on by the sanitary personnel. Total vaccinations; antismallpox, 3,113; inspected 3,053; combined cholera-typhoid for first injection 4,492, and for the second injection, 4,035.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of February, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹ BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	290,009
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I. MEISIC:	
1. Tondo.....	79,705
2. San Nicolas.....	28,792
3. Binondo.....	17,398
Total.....	125,895
No. II. SAMPALOC:	
4. Santa Cruz.....	51,565
5. Quiapo.....	15,658
6. San Miguel.....	4,877
7. Sampaloc.....	39,186
Total.....	110,786
No. III. PACO:	
8. Port Area.....	4,754
9. Intramuros.....	14,437
10. Ermita.....	15,931
11. Malate.....	16,259
12. Paco.....	15,830
13. Pandacan.....	5,785
14. Santa Ana.....	6,589
Total.....	79,585
Grand total.....	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, FEBRUARY, 1926**

Date	Pressure mean †	Temperature						
		In shade ‡					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
	mm.	°C.	°C.		°C.		8 a. m. mean	2 p. m. mean
1-10.....	761.85	25.4	33.9	9	19.4	2	26.2	26.8
11-20.....	62.29	25.7	34.7	11	18.2	20	26.9	27.6
21-28.....	63.44	25.6	34.6	23	17.8	21	26.6	27.4

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	73.2	78.2	5	66.6	1
11-20.....	68.2	74.1	15	62.8	13
21-28.....	67.2	71.1	22	61.3	28

Date	Prevailing direction	Wind			Atmidometer † (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day	Total	Daily maxi- mum	Day
		Kms.	Kms.		mm.	mm.	
1-10.....	SE	1,889.5	276.0	3	44.6	5.4	8
11-20.....	SE quad	2,025.5	289.0	12	54.6	7.2	12
21-28.....	E	1,538.0	223.0	28	45.0	7.7	28

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	44 50	9 25	7	0.0	0
11-20.....	69 25	9 10	12	0.5	1
21-28.....	50 20	9 30	28	0.0	0

† Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

‡ These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE
CITY OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....		4	4	16.65
Filipinos.....	559	522	1,081	48.62
Spaniards.....	1	1	2	13.34
Other Europeans.....	1		1	11.58
Chinese.....	25	32	57	41.64
All others.....	3	4	7	41.77
Total and average.....	589	563	1,152	47.51

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I. MEJISIC:							
1. Tondo.....	184	182	366	13	7	20	386
2. San Nicolas.....	39	34	73	.....	4	4	77
3. Binondo.....	20	20	40	.....	3	3	43
Total.....	243	236	479	13	14	27	506
No. II. SAMPALOC:							
4. Santa Cruz.....	48	60	108	4	3	7	115
5. Quiapo.....	19	11	30	.....	2	2	32
6. San Miguel.....	8	11	19	1	.....	1	20
7. Sampaloc.....	93	90	183	2	11	13	196
Total.....	168	172	340	7	16	23	363
No. III. PACO:							
8. Port Area.....	5	6	11	.....	.....	.....	11
9. Intramuros.....	25	21	46	1	1	2	48
10. Ermita.....	15	18	33	2	.....	2	35
11. Malate.....	52	40	92	2	2	4	96
12. Paco.....	38	24	62	1	1	2	64
13. Pandacan.....	6	7	13	1	.....	1	14
14. Santa Ana.....	10	3	13	.....	2	2	15
Total.....	151	119	270	7	6	13	283
Grand total.....	562	527	1,089	27	36	63	1,152

Attended by physicians, living, 293; stillbirths, 15.
 Attended by midwives, living, 81; stillbirths, 0.
 Attended by families, living, 778; stillbirths, 25.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA

BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	1	2	3	12.49
Filipinos.....	313	313	626	28.56
Spaniards.....	1	2	3	20.02
Other Europeans.....	2	.....	2	28.17
Chinese.....	26	3	29	21.19
All others.....	3	.....	3	17.90
Total and average.....	346	320	666	27.83

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	124	102
Divorced.....	.....	.....
Widowed.....	24	66
Single.....	253	198
Conditions not stated.....	5	2
Total.....	406	368
Grand total.....	774	

Stillbirths.....	40
Number of deaths with medical attendance.....	465
Number of deaths without medical attendance.....	309

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	109	82	6	7	204
1 year plus	41	31	3	5	80
2 years plus	16	23	.....	4	43
3 years plus	5	7	.....	1	13
4 years plus	3	4	.....	.....	7
5 to 9 years	8	8	.....	2	19
10 to 14 years	6	5	2	.....	13
15 to 19 years	13	8	6	5	32
20 to 24 years	10	11	7	3	31
25 to 29 years	11	23	5	2	41
30 to 34 years	9	14	3	.....	26
35 to 39 years	19	14	4	3	40
40 to 44 years	14	8	3	3	28
45 to 49 years	11	11	5	1	28
50 to 54 years	7	20	3	1	31
55 to 59 years	13	7	5	3	28
60 to 64 years	12	7	3	4	26
65 to 69 years	5	3	.....	1	9
70 to 74 years	12	7	2	2	23
75 to 79 years	9	6	.....	.....	15
80 to 84 years	4	8	.....	.....	12
85 to 89 years	8	3	.....	.....	6
90 to 94 years	3	6	.....	.....	9
95 to 99 years	3	1	.....	.....	4
100 years and over . . . . .	.....	3	.....	.....	3
Age not stated . . . . .	.....	.....	.....	.....	.....
Total	346	320	58	47	771

NOTE: (1) One male American, 40 years; one female Japanese, 35 years, and one male Filipino, age unknown, permanent residences all unknown, not included in the above table.

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA

BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I. MEISIC:			
1. Tondo	102	126	228
2. San Nicolas	29	27	56
3. Binondo	17	10	27
Total	148	163	311
No. II. SAMPALOC:			
4. Santa Cruz	48	40	88
5. Quiapo	9	6	15
6. San Miguel	5	2	7
7. Sampaloc	47	45	92
Total	109	93	202
No. III. PACO:			
8. Port Area	1	.....	1
9. Intramuros	9	15	24
10. Ermita	11	6	17
11. Malate	30	22	52
12. Paco	22	14	36
13. Pandacan	7	5	12
14. Santa Ana	9	2	11
Total	89	64	153
Grand total	346	320	666

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
5	a. Typhoid fever.....			2	4							1		7
7	a. Malarial fever.....			2	2					1				5
9	Whooping cough.....			1	1									2
10	Diphtheria.....			2	2									4
11	Influenza:													
	a. With pulmonary complications specified.....			1	3									4
	b. Without pulmonary complications specified.....									1				1
16	Dysentery:													
	b. Bacillary.....													
21	Erysipelas.....			1	4					1				4
24	Meningococcus meningitis.....			2										2
25	Other epidemic and endemic diseases:													
	a. Chicken-pox.....			1										1
29	Tetanus:													
	a. Umbilical.....			2	1									3
	b. Others.....				3									3
31	Tuberculosis of the respiratory system.....			58	78			1		6		1		144
32	Tuberculosis of the meninges and central nervous system.....			1	1									2
33	Tuberculosis of the intestines and peritoneum.....		1	3	1					1				6
36	Tuberculosis of other organs:													
	c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted).....			1										1
	d. Tuberculosis of the genito-urinary system.....			1										1
37	Disseminated tuberculosis:													
	b. Chronic or unspecified.....							1						1
38	Syphilis.....									1				1
41	Purulent infection, septicemia.....							1						1
43-69	<i>II. General diseases not included in Class I</i>													
44	Cancer and other malignant tumors of the stomach, liver.....	1		2	2									6
45	Cancer and other malignant tumors of the peritoneum, intestines, rectum.....			1	1									2

100	Bronchopneumonia:	43	42	87
	a. Bronchopneumonia.....			5
	b. Capillary bronchitis.....	2	3	
101	Pneumonia:			
	a. Lobar.....	5	9	15
	b. Unspecified.....	1		1
102	Pleurisy.....	1		1
103	Congestion and hemorrhagic infarct of the lung.....	1		1
104	Grangrene of the lung.....	1	1	3
105	Asthma.....	1		1
107	Other diseases of the respiratory system (tuberculosis excepted):	1		2
	c. Others under this title.....		1	1
108-127	<i>VI. Diseases of the digestive system</i>			
108	Diseases of the mouth and annæxæ.....	1		1
109	Diseases of the pharynx and tonsils (including adenoid vegetations):			
	a. Others under this title.....	1		1
111	Ulcer of the stomach and duodenum:			
	a. Ulcer of the stomach.....		2	2
112	Other diseases of the stomach (cancer excepted).....			1
113	Diarrhea and enteritis (under 2 years of age).....	9	5	15
114	Diarrhea and enteritis (2 years and over).....	7	4	11
116	Diseases due to other intestinal parasites:			
	c. Nematodes (other than ancylostoma).....		1	1
117	Appendicitis and typhlitis.....		2	3
118	Hernia, intestinal obstruction:			
	a. Hernia.....		1	1
	b. Intestinal obstruction.....	2	1	3
119	Other diseases of the intestines.....	1	1	2
122	Cirrhosis of the liver:			
	a. Specified as alcoholic.....	1		1
	b. Not specified as alcoholic.....			
124	Other diseases of the liver.....	1	1	2
126	Peritonitis without specified cause.....	1		2
128-142	<i>VII. Nonvenereal diseases of the genito-urinary system and anææra</i>			
128	Acute nephritis (including unspecified under 10 years of age).....	6	5	12
129	Chronic nephritis (including unspecified 10 years and over).....	3	5	9
131	Other diseases of the kidneys and annææra.....	1		1
138	Salpingitis and pelvic abscess (female).....		1	1
141	Other diseases of the female genital organs.....		2	2
143-150	<i>VIII. The puerperal state</i>			
143	Accidents of pregnancy:			
	b. Ectopic gestation.....		1	1
144	Puerperal hemorrhage.....		2	2
146	Puerperal septicæmia.....		1	1
148	Puerperal albuminuria and convulsions.....		1	1

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
151	Gangrene.....			1	1									1
152	Furuncle.....			1										1
159	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included):													
	b. Congenital malformations of the heart.....			1	1									1
	c. Others under this title.....			1										1
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema.....			17	18						1			36
161	Premature birth; injury at birth:													
	a. Premature birth (not stillborn).....			8	1									9
162	Other diseases peculiar to early infancy.....			1	2									3
164	<i>XIII. Old age</i>													
164	Senility.....			17	15									32
165-203	<i>XIV. External causes</i>													
165	Suicide by solid or liquid poisons (corrosive substances excepted).....			1										1
171	Suicide by cutting or piercing instruments.....									1				1
179	Accidental burns (conflagration excepted).....			1										1
185	Accidental traumatism by fall.....									1				1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	a. Railroad accidents.....									1				1
	g. Landslides, other crushing.....													1
	Total.....	1	2	313	313	1	2	2		26	3	3		666
	Grand total.....	3		626		3		2		29		3		666

(Stillbirths not included)

II. General diseases not included in class I

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1928)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
70-86	<i>III. Diseases of the nervous system and of the organs of special sense</i>													
71	Meningitis:													
	a. Simple meningitis.....			1										1
73	Other diseases of the spinal cord.....						1							1
74	Cerebral hemorrhage, apoplexy:													
	a. Cerebral hemorrhage.....			2	1	1								4
87-96	<i>IV. Diseases of the circulatory system</i>													
88	Endocarditis and myocarditis (acute).....				1									1
89	Angina pectoris.....			1										1
90	Other diseases of the heart.....			2	2									4
97-107	<i>V. Diseases of the respiratory system</i>													
99	Bronchitis:													
	a. Acute.....			2										2
100	Broncho-pneumonia:													
	a. Broncho-pneumonia.....			3	4									7
101	Pneumonia:													
	a. Lobar.....			5	1			1						7
102	Pleurisy.....				1									1
103	Congestion and hemorrhagic infarct of the lung.....				1									1
105	Asthma.....				1									1
108-127	<i>VI. Diseases of the digestive system</i>													
	Diseases of the mouth and annora.....				1									1
108	Diarrhea and enteritis (under 2 years of age).....				3									3
113	Appendicitis and typhlitis.....													
117	Hernia, intestinal obstruction:						1							1
	a. Hernia.....													
119	Other diseases of the intestines.....			1	1									1
126	Peritonitis without specified cause.....			1										1

128-142	VIII. Nonseneral diseases of the genito-urinary system and annexa	1	1	1	1	1	1	1	1	1	1	1	1
129	Chronic nephritis (including unspecified 10 years and over)												
131	Other diseases of the kidneys and annexa												
138	Salpingitis and pelvic abscess (female)												
143-150	VIII. The puerperal state												
144	Puerperal hemorrhage												
151-154	IX. Diseases of the skin and of the cellular tissue												
151	Gangrene												
155-158	X. Diseases of the bones and of the organs of locomotion												
155	Diseases of the bones (tuberculosis excepted)												
160-163	XII. Early infancy												
160	Congenital debility, icterus, and sclerema												
165-203	XIV. External causes												
183	Accidental traumatism by firearms (wounds of war excepted)												
184	Accidental traumatism by cutting or piercing instruments												
186	Accidental traumatism in mines and quarries:												
	a. Mines												
188	Accidental traumatism by other crushing (vehicles, railways, landfalls, etc.):												
	c. Automobile accidents												
	g. Landslides, other crushing												
	Total	1	50	46	3	1	1	1	2	1	1	105	
	Grand total	1	96	4	1	1	2	1	105	1	105		

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 86 hours	86 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
7. Measles.....					1	1
10. Diphtheria.....					1	1
11. Influenza:						
a. With pulmonary complications specified.....					1	1
21. Erysipelas.....					1	1
25. Other epidemic and endemic diseases:						
a. Chicken pox.....					1	1
29. Tetanus:						
a. Umbilical.....				3		3
32. Tuberculosis of the meninges and central nervous system.....					2	2
38. Syphilis.....					1	1
55. Beriberi:						
a. Infants.....	1	1		12	41	55
56. Rickets.....					3	3
62. Diseases of the thymus gland.....					1	1
71. Meningitis:						
a. Simple meningitis.....					2	2
94. Diseases of the lymphatic system (lymphangitis, etc.).....				1		1
99. Bronchitis:						
a. Acute.....				1	23	24
b. Chronic.....					4	4
c. Unspecified.....					1	1
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....					29	29
b. Capillary bronchitis.....					1	1
101. Pneumonia:						
a. Lobar.....					2	2
103. Congestion and hemorrhagic infarct of the lung.....		1				1
113. Diarrhea and enteritis.....					15	15
119. Other diseases of the intestines.....		1			1	1
123. Acute nephritis.....					2	2
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart.....					1	1
c. Others under this title.....					1	1
160. Congenital debility, icterus, and sclerema.....	8	5		18	6	37
161. Premature birth, injury at birth:						
a. Premature birth (not still-born).....	7			1	1	9
162. Other diseases peculiar to early infancy.....	1			1	1	3
Total.....	17	7		37	143	204

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	21,084
Number of rats caught by spring traps.....	2,357
Number of cage-wire traps set.....	616
Number of rats caught by cage-wire traps.....	12
Number and kind of baits (coconuts).....	21,700
Number of poison portions placed.....	12,480
Number of rats found poisoned.....	137
Number of rats killed by clubs and other weapons.....	583
Number of rats found dead from other causes.....	453
Total number of rats otherwise caught, found dead, or killed.....	3,542
Total number of rats sent to the laboratory for examination.....	3,542
Total number of rats found positive for plague.....	0

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.	1	1						1	1	1		2	1
	No. 2.						1	1			1		1	1
	No. 3.	4							4		2		6	
II.	No. 4.		2								1		1	
	No. 5.	1	1						1				1	
	No. 6.	2							2				2	
	No. 7.													
	No. 8.	1							1		3	2	4	2
III.	No. 9.		3	2										
	No. 10.													
	No. 11.	4			1	1			5	1			5	1
	No. 12.	2	1						2	1	2	1	4	2
	No. 13.	1							1				1	
	No. 14.										1		1	
Total	16	2	10	3	1	1	1	1	17	3	11	4	28	7

REMARKS:

Cases confirmed as typhoid fever.....	28
Cases confirmed as paratyphoid fever.....	0
By autopsy.....	0
By blood culture.....	0
By widal reaction.....	0
By urine examination.....	0
By feces examination.....	0
By clinical symptoms.....	28
Cases reported among non-resident cases not included in the table.....	9
Deaths reported among non-resident cases not included in the table.....	4

Typhoid carrier—None.

DYSENTERIES REPORTED DURING THE MONTH OF FEBRUARY, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....	2	3	1			1	1	2		4	2	6	2
	No. 2.....		1	1							1	1	1	1
	No. 3.....		1								1		1	
	No. 4.....													
	No. 5.....													
II.....	No. 6.....	1							1				1	
	No. 7.....													
	No. 8.....													
	No. 9.....		1	1							1	1	1	1
	No. 10.....	1	1						1		1		2	
III.....	No. 11.....													
	No. 12.....													
	No. 13.....													
	No. 14.....													
	Total.....	4	7	3			1	1	4		8	4	12	4

REMARKS:

Amebic dysentery.....

Bacillary dysentery.....

Unspecified.....

Cases reported among non-resident cases not included in the table.....

Deaths reported among non-resident cases not included in the table.....

Dysentery carrier—None.

0

6

6

12

5

CHOLERA REPORTED DURING THE MONTH OF FEBRUARY, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.....	No. 1.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 2.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 3.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 4.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II.....	No. 5.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
	No. 6.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 7.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
	No. 8.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.....	No. 9.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 10.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
	No. 11.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 12.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
-	No. 13.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 14.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Total.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....

REMARKS:

9 non-resident cases from the province brought to Manila for treatment, are not included in the table. 3 of them died in the hospital. 3 of the non-resident cases reported during the month of January, died this month.

Cholera carrier—26.

DIPHTHERIA REPORTED DURING THE MONTH OF FEBRUARY, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.	No. 1	1		1	1								1	1		1	1		1	1
	No. 2																			
	No. 3	3		1						1			3			2	1		5	1
II.	No. 4												1							
	No. 5	1		1									1			1			2	
	No. 6	1		2									1			2			3	
	No. 7												1							
	No. 8	1											1						1	
III.	No. 9	3		1									3	1		1			3	1
	No. 10																			
	No. 11												1						1	
	No. 12	1																		
	No. 13																			
	No. 14																			
Total	11	2		5	1					1			11	2		6	2		17	4

REMARKS:

Cases reported among nonresident not included in the table

Deaths reported among nonresident not included in the table

Diphtheria carrier—1.

2

1

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF FEBRUARY, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	14	5	3	2
Varicella.....	101	34	1	
Varioloid.....				
Smallpox.....				
Measles.....	21	13	1	1
Whooping cough.....		1		1
Influenza.....	9	8	1	4
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	2		2	
Pulmonary tuberculosis.....	126	141	66	78
Tuberculosis of all forms.....	11	4	11	4
Beriberi, infantile.....	34	18	34	18
Beriberi, adult.....	1	1	1	1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	27	3	2	2
Varicella.....	40	49		1
Varioloid.....				
Smallpox.....				
Measles.....	3	6		
Whooping cough.....				
Influenza.....		1		1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	28	14	10	3
Tuberculosis of all forms.....	1	1	1	1
Beriberi, infantile.....	2	1	2	1
Beriberi, adult.....		1		1

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR
THE MONTH OF FEBRUARY, 1926**

Sera and vaccines	On hand February 1, 1926	Received during the month	Total to be accounted for	Distrib- uted during the month	Remain- ing at the end of the month
Anti-diphtheric serum (units).....	215,000	500,000	715,000	500,000	215,000
Anti-dysenteric serum (ampoules).....	81	50	131	70	61
Anti-tetanic serum (units).....	320,000	550,000	870,000	580,000	290,000
Cholera serum (ampoules).....					
Cholera vaccine (c. c.).....	5,920	690,000	695,920	690,140	5,780
Dried vaccine virus (units).....	44,050	100,000	144,050	83,800	60,250
Fresh vaccine virus (units).....	98,900	200,000	298,900	187,100	111,800
Gonococcus vaccine (ampoules).....		124	124	124	
Mixed typhoid-cholera vaccine (c. c.).....		1,310	1,310	1,310	
Typhoid vaccine (c. c.).....	4,130	9,480	13,610	13,560	50

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1926

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated								
		Total vaccinations	Previously vaccinated		Unsuccessful	Under 1 year		1 to 4 years		5 years and over		Total	
			Never	Successful		Positive	Negative	Positive	Negative	Positive	Negative		
No. 1.....	Tondo.....	2,062	282	1,557	223	253	2	24	4	39	135	316	141
	San Nicolas.....	624	135	454	35	81	3	11	1	5	21	97	25
	Binondo.....	653	79	531	43	42	2	13	1	6	7	61	10
	Santa Cruz.....	1,728	99	1,168	461	76	1	1		216	653	293	654
	Quiapo.....	1,136	35	100	1	25		1		8	34	34	34
No. 2.....	San Miguel.....	147	16	126	5	15		1		12	78	28	78
	Sampaloc.....	2,048	235	1,525	288	146	2	37	21	125	165	308	188
	Port Area.....												
	Intramuros.....	71	62	3	6	43	2	1	3	2	1	46	6
	Ermita.....	155	60	74	21	75		6	4	1	8	82	12
No. 3.....	Malate.....	309	91	186	32	83	2	4	2	8	13	95	17
	Paco.....	87	47	32	8	27		3	4	2	6	32	10
	Pandacan.....	46	31	9	6	28			2			28	2
	Santa Ana.....	12	12			36						36	
	Total.....	8,078	1,184	5,765	1,129	980	14	102	42	424	1,121	1,456	1,177

Vaccine Virus:

Received.....	24,250
Used.....	16,150
Remained.....	9,100

ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1926

77

Health districts	Municipal districts	Number of injections made in				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.....	932	830	362	312	1,284	1,142
	San Nicolas.....	1,796	652	151	62	1,946	714
	Binondo.....	927	817	164	393	1,091	1,210
	Santa Cruz.....	965	577	403	297	1,368	874
	Quiapo.....	1	1	1	1	2	1
No. 2.	San Miguel.....	63	54	10	1	73	55
	Sampaloc.....	173	181	171	103	344	284
	Port Area.....						
	Intramuros.....	291	115	202	31	493	146
	Ermita.....	118	95	22	14	140	109
No. 3.	Malate.....	421	210	280	122	701	332
	Paco.....	335	225	86	70	421	295
	Pandacan.....	157		94		251	
	Santa Ana.....	87	115	207	375	294	490
	Grand total.....	6,265	3,872	2,143	1,780	8,408	5,652

ANTI-TYPHOID VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF FEBRUARY, 1926

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.	525		232		757	
	San Nicolas.	562		97		659	
	Binondo.	750		128		878	
	Santa Cruz.	793		404		1,197	
	Quiapo.	101		77		178	
No. 2.	San Miguel.	116		27		143	
	Sampaloc.	133		96		229	
	Port Area.						
	Intramuros.	58		7		65	
	Ermita.	120		43		163	
No. 3.	Malate.	251		66		317	
	Paco.	98		64		162	
	Pandacan.	36		22		58	
	Santa Ana.	139		480		619	
	Grand total.	3,682		1,743		5,425	

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	10,766	1,135	7,412	2,219
Agusan.....	270	32	178	60
Albay.....	5,463	2,216	625	2,622
Antique.....	19,781	3,207	12,006	4,568
Bataan.....	2,181	785	674	722
Batangas.....	2,561	767	520	1,274
Bohol.....	4,431	932	1,661	1,838
Bukidnon.....	354	81	120	153
Bulacan.....	26,603	3,485	21,368	1,750
Cagayan.....	2,877	618	1,226	1,033
Camarines Norte.....	720	234	229	257
Camarines Sur.....	20,581	2,279	14,865	3,437
Capiz.....	22,002	4,560	15,407	2,035
Catanduanes.....	1,239	334	217	688
Cavite.....	2,769	772	1,043	954
Cebu.....	12,410	4,073	3,476	4,861
Cotabato.....	2,284	782	569	933
Ilocos Sur.....	3,720	938	280	2,502
Iloilo.....	6,376	2,839	1,236	2,301
Isabela.....	13,317	2,503	9,435	1,379
Laguna.....	2,551	880	1,147	524
Lanao.....	674	160	251	263
La Union.....	2,708	604	280	1,824
Marinduque.....	663	152	45	466
Masbate.....	1,064	427	184	452
Mindoro.....	8,959	1,643	6,115	1,201
Misamis.....	7,749	1,309	4,742	1,698
Nueva Ecija.....	3,719	1,006	1,048	1,665
Nueva Vizcaya.....	7,933	631	6,274	1,028
Occidental Negros.....	3,453	1,856	758	839
Oriental Negros.....	3,976	873	1,504	1,599
Palawan.....	199	63	45	91
Pampanga.....	8,424	1,414	3,908	3,102
Pangasinan.....	4,003	1,193	872	1,938
Rizal.....	3,501	1,060	1,703	738
Samar.....	10,533	1,623	7,611	1,299
Sulu.....	1,940	1,171	216	553
Surigao.....	4,232	1,204	1,345	1,683
Tarlac.....	5,703	1,104	3,451	1,148
Tayabas.....	4,115	1,804	1,020	1,291
Total.....	246,804	52,749	135,066	58,989

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	168	85	1,010	266	2,626	1,303	3,804	1,654
Agusan.....	8		11	10	30	19	49	29
Albay.....	966	318	737	215	570	233	2,273	766
Antique.....	434	81	1,259	650	3,691	6,198	5,384	6,929
Bataan.....	422	60	778	306	335	199	1,535	565
Batangas.....	188	19	422	147	320	334	930	500
Bohol.....	519	109	672	241	1,298	951	2,489	1,301
Bukidnon.....	14	1	16	8	44	48	74	57
Bulacan.....	1,153	94	2,074	588	8,632	6,620	11,859	7,302
Cagayan.....	227	21	371	78	1,281	604	1,879	703
Camarines Norte.....	95	16	182	43	259	76	536	135
Camarines Sur.....	635	116	1,916	403	8,101	2,663	10,652	3,182
Capi.....	631		2,074	169	9,637	3,374	12,242	3,543
Catanduanes.....	144	85	135	47	137	200	416	332
Cavite.....	428	54	519	134	1,056	512	2,008	700
Cebu.....	899	339	671	243	1,617	1,328	3,187	1,910
Cotabato.....	8	7	71	49	259	282	338	338
Ilocos Sur.....	629	119	774	267	510	538	1,913	921
Iloilo.....	538	97	1,076	212	1,969	699	3,583	1,008
Isabela.....	281	31	1,039	168	3,230	1,480	4,550	1,679
Laguna.....	418	77	294	162	436	698	1,148	937
Lanao.....	26	8	40	12	60	16	126	36
La Union.....	211	60	278	235	389	577	878	872
Marinduque.....	38	10	107	55	138	33	283	93
Masbate.....	70	36	180	63	387	103	637	202
Mindoro.....	151	3	755	42	3,196	1,498	4,102	1,543
Misamis.....	150	9	801	106	3,039	1,407	3,990	1,522
Nueva Ecija.....	363	45	815	187	948	668	2,126	900
Nueva Vizcaya.....	256	5	1,048	305	4,013	3,332	5,317	3,642
Occidental Negros.....	609	107	715	163	817	352	2,141	622
Oriental Negros.....	345	107	683	270	1,076	507	2,104	884
Palawan.....	29	7	26	12	51	74	106	93
Pampanga.....	394	129	713	244	1,919	1,220	3,026	1,593
Pangasinan.....	525	93	660	124	879	715	2,064	932
Rizal.....	362	54	429	161	515	649	1,306	864
Samar.....	207	28	1,515	136	2,890	693	4,612	857
Sulu.....	97	21	349	95	688	169	1,134	285
Surigao.....	78	42	424	230	1,279	1,312	1,781	1,584
Tarlac.....	666	203	1,045	335	1,374	1,708	3,085	2,246
Tayabas.....	466	85	922	184	1,148	623	2,536	892
Total.....	13,848	2,781	27,606	7,365	70,744	44,015	112,198	54,161

¹ Incomplete; reports from other provinces not yet received.

NOTE.—Vaccinations performed by the Vaccinating Parties are included in the above table.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Agusan.....				
Albay.....	4,619			4,619
Antique.....	9,077			9,077
Bataan.....	15,813			15,813
Batangas.....	85,327			85,327
Bulacan.....	5,380	416		5,746
Capiz.....				
Catanduanes.....	1,950			1,950
Cavite.....	11,527			11,527
Davao.....	703	484		1,187
Ilocos Norte.....	8,308			8,308
Laguna.....	81,634			81,634
Lanao.....				
La Union.....	2,673	856		3,529
Leyte.....	8,372	3,991		12,363
Marinduque.....	15,473	4,413	1,263	21,149
Masbate.....				
Mindoro.....	14,239	3,455	220	17,914
Nueva Ecija.....	19,323			19,323
Pampanga.....	17,682	488		18,170
Pangasinan.....	186,488			186,488
Rizal.....	137,606			137,606
Sulu.....				
Tarlac.....				
Tayabas.....				
Zamboanga.....				
Total.....	626,639	14,103	1,483	642,229

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Agusan.....				
Albay.....				
Antique.....				
Bataan.....				
Batangas.....				
Bulacan.....				
Capiz.....				
Cavite.....				
Davao.....				
Ilocos Norte.....				
Laguna.....				
Lanao.....				
La Union.....	1,069			1,069
Leyte.....				
Marinduque.....				
Masbate.....				
Mindoro.....				
Nueva Ecija.....				
Pampanga.....	83	74		157
Pangasinan.....				
Rizal.....				
Sulu.....				
Tarlac.....				
Tayabas.....				
Total.....	1,152	74		1,226

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA VACCINE) RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹

Provinces	First injections	Second injections	Third injections	Total
Agusan.....	2,699	1,283		3,982
Albay.....				
Antique.....				
Bataan.....				
Batangas.....				
Bulacan.....				
Capiz.....	28,836			28,836
Cavite.....				
Davao.....				
Ilocos Norte.....				
Laguna.....				
Lanao.....	927	328		1,255
La Union.....	180	42	31	253
Leyte.....				
Marinduque.....	490	102		592
Masbate.....	958	63		1,021
Mindoro.....				
Nueva Ecija.....				
Pampanga.....	96	39		135
Pangasinan.....				
Rizal.....				
Sulu.....				
Tarlac.....	24,778			24,778
Tayabas.....	5,644	2,222		7,866
Zamboanga.....	2,241	76	15	2,332
Total.....	66,849	4,155	46	71,050

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF FEBRUARY, 1926

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF FEBRUARY, 1926

Provinces and towns	Cases	Deaths
BATANGAS:		
Lemery.....	9	9
Taal.....	1	1
LAGUNA:		
Biñang.....		1
MINDORO:		
Pinamalayan.....	4	3
PAMPANGA:		
Lubao.....	11	9
RIZAL:		
Pasig.....	1	1
Taguig.....	9	3
Total.....	35	27

REMARKS: Cases and deaths from the Province of Rizal brought to Manila for treatment, are included in this reports.

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF FEBRUARY, 1926**

	Health districts—			
	No. 1 Meisic	No. 2 Sam- paloc	No. 3 Paco	Total
Orders pending, February 1, 1926:				
Minor.....	115	80	107	302
Sewer.....	23	65	8	86
Vacating.....	8	14	9	31
Filling.....	10	34	13	57
Total.....	156	183	137	476
Orders issued during the month:				
Minor.....	4	30	7	41
Sewer.....	1			1
Vacating.....			1	1
Filling.....				
Total.....	5	30	8	43
Orders completed during the month:				
Minor.....	14	13	24	51
Sewer.....	1	1		2
Vacating.....				
Filling.....				
Total.....	15	14	24	53
Orders cancelled during the month:				
Minor.....			1	1
Sewer.....				
Vacating.....				
Filling.....				
Total.....			1	1
Orders pending, February 28, 1926:				
Minor.....	105	97	89	291
Sewer.....	23	54	8	85
Vacating.....	8	14	10	32
Filling.....	10	34	13	57
Total.....	146	199	120	465
Strong material plans approved:				
New buildings including additions and alterations.....	24	41	55	120
Permits for minor building constructions:				
Approved.....	20	45	21	86
Disapproved.....	3	3	2	8
New buildings completed.....	17	19	31	67
Permits for light and mixed material constructions:				
Approved.....	12	25	42	79
Disapproved.....	4	5	7	16
Prosecutions:				
Convictions.....				
Dismissals.....		3		3
Amount of fines.....				
Plumbing permits issued.....	33	74	52	159
Plumbing projects completed.....	23	33	34	90
Premises connected to the sanitary sewer to January 31, 1926.....	2,459	4,190	550	7,199
Connected during the month.....	10	3	4	17
Total.....	2,469	4,193	554	7,216

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

MARCH, 1926

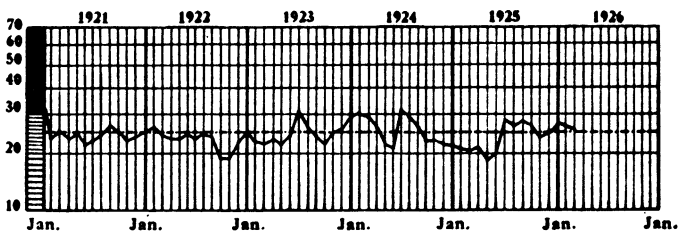
No. 3

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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ERRATA

"Health Index and Epidemic Index" by Dr. Eugenio Hernando.

1. "Expectancy of Cases Chart" should be Chart I.
2. "Cases Epidemic Index Chart" should be Chart II.
3. Fourth line, page 93 "ket" should read "get."
4. Eighteenth line, page 93 "falls under the" should read "falls under said."
5. Twenty-fourth line, page 93 $y = a + b) x$ should read $y = a + bx$
6. *Computation of constants* page 95:

For the computation of constants: $na + S(x^2)b + S(x)b = S(xy) = S(y)$
 $S(x)a$

should read as follows:

$$na + S(x)b = S(y)$$

$$S(x)a + S(x^2)b = S(xy)$$

7. Page 95 table "Thee central median" should read "Three central median"
8. Page 96: Table "Normal distribution" at the bottom of the page should be omitted because Table D in page 97 is a continuation of Table D in page 96.



MONTHLY BULLETIN
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PHILIPPINE HEALTH SERVICE

VOL. VI

MARCH, 1926

No. 3

HEALTH INDEX AND EPIDEMIC INDEX

By **EUGENIO HERNANDO, M.D., C. P. H.**

Philippine Health Service

HISTORICAL REMARKS

In the year 1918, Dr. L. R. Thompson, passed assistant surgeon, United States Public Health Service, and at that time chief quarantine officer for the Philippine Islands, in the light of his long and wide experience in epidemiologic surveys, submitted to the Director of Health a plan that he called "Sanitary Health Control System,"¹ which had for its purpose the standardization, reduction, and automatic carrying out of the sanitary work of health officers. Two commissions were organized for the purpose of putting into practice the principles set forth in the plan, and the Provinces of Bulacan and Cebu were selected as experimental health organizations.²

In the year 1919, the Philippine Health Service published Bulletin No. 20, entitled "Automatic Health Control," wherein Doctor Thompson has shown in a condensed form an excellent plan for health organizations, expounding in a clear and concise form how health officers can effect an automatic control of the health conditions within their respective jurisdiction and then institute measures to prevent the outbreak of dangerous communicable diseases.^{3, 4}

¹ Annual Report of the Philippine Health Service for the year 1917, page 84.

² Annual Report of the Philippine Health Service for the year 1918, pages 144-153.

³ Philippine Health Service Bulletin No. 20.

⁴ Annual Report of the Philippine Health Service for the year 1919, page 241.

For the benefit of those officers who have not had the opportunity to read so valuable a contribution to public health work, there are quoted hereunder the two most expressive paragraphs of the said bulletin.⁵

The underlying principle of automatic health control aims at a correlation of sociological and physical data, giving the health officers the benefit of anticipatory supervision of all possible sources of infection, thus essentially forestalling the spread of disease. To do this, satisfactory mortality and morbidity statistics should be available at regular intervals, and a detailed and well-tabulated sanitary survey of the unit municipalities and district maintained. All tabulations and card indices must be standardized, so that comparison may be made between smaller and larger, or neighboring units.

A feature of special local value in this system is that after once being thoroughly established, even if it falls under mediocre supervision, as long as the mechanical efficiency is maintained, the system will perpetuate itself to the benefit of public health. In other words, automatic health control, as a uniform basis of recording and tabulating sanitary data, is relatively fool-proof.

On December 12, 1918, the district health officers were required to submit weekly reports⁶ to the Central Office as a preliminary step to the adoption of Doctor Thompson's plan. But as it was observed that some district health officers had not exactly understood the importance of such reports, Circular R-37,⁷ dated March 25, 1919, was issued, from which the following excerpt is quoted:

The weekly report, as has been stated, should serve as a barometer, as a gauge of the changes in public health, a timely use of the returns of which will enable the health officer to hang his storm signals of the approach of danger on one hand, and on the other will serve him as an automatic detector of the mortality rate and general health situation within his district. In other words, the data gleaned therefrom should be used both for purposes of contagion eradication and for the reduction of the general mortality rate. In either event, it will place the health officer in a position to prove his worth, to keep faith with himself and his duties and to further the interests of the Service, the good name of which he is bound to uphold.

For obvious reasons, the entire automatic health control system was practically never put into practice by district health officers. Only that part of the plan known as "health index" was really enforced.

⁵ Philippine Health Service Bulletin No. 20, page 4.

⁶ Circular Q-84, dated December 12, 1918, and Annual Report of the Philippine Health Service for the year 1919, page 143.

⁷ Annual Report of the Philippine Health Service for the year 1919, pages 143-144.

Provincial Form No. 67, known as monthly report, was prepared to facilitate the carrying out of the Automatic Health Control," Circular T-64, dated August 25, 1921, outlined in details the preparation of the said report as well as the significance and importance of the health index. "

Later on, at the suggestion of Doctor Montemayor, then acting district health officer of the Province of Pangasinan, it was directed that district health officers should prepare for each health district a chart that was called "Health Barometer," samples of which were distributed together with Circular T-69, dated September 16, 1921. ¹⁰

The purpose of the Health Barometer was the same as that of the chart called by Doctor Thompson Health Index. The health barometer is still required to be kept in the offices of district health officers and presidents of sanitary divisions.

CRITICISMS OF THE HEALTH BAROMETER

The instructions given for the preparation of the chart called Health Barometer were very simple. A piece of cross-section paper is divided into 52 divisions (number of weeks of a year) and then grouped together into months. The weekly mortality rate per 1,000 population is plotted on this chart and this rate is compared with the average weekly mortality rate corresponding to the same week of the past five years.

As, in accordance with the mortality rate recorded from the year 1910 up to the year 1920, the average annual crude mortality rate for the total Christian population of the Philippine Islands oscillates between 20 and 25 per one thousand population, it was directed that the indications given by the Health Barometer be interpreted as follows:

- (a) Mortality rate from 0 to 14 per 1,000 population—"excellent."
- (b) Mortality rate from 15 to 19 per 1,000 population—"good."
- (c) Mortality rate from 20 to 24 per 1,000 population—"normal."
- (d) Mortality rate from 25 to 29 per 1,000 population—"lookout."
- (e) Mortality rate from 30 to 34 per 1,000 population—"investigate."
- (f) Mortality rate from 35 up per 1,000 population—"epidemic."

For a better understanding of those readers who are not familiar with the above-mentioned health barometer, there is given below a sample copy of a Health Barometer.

¹ Annual Report of the Philippine Health Service for the year 1919, pages 107-129.

² Annual Report of the Philippine Health Service for the year 1921, pages 504-524.

³ Annual Report of the Philippine Health Service for the year 1921, pages 185 and 569.

Several criticisms can be given with regard to this Health Barometer, as it was directed to be prepared, but the most important are the following:

First, the average crude death rate of the whole Philippine Islands is used as a basis of comparison with the death rate of a province or municipality for which a Health Barometer is prepared, without taking into consideration the composition of the population as to sex and ages of such municipality or province.

Second, as the crude mortality rate in a community depends also upon the accuracy of general registration, upon the number of births registered, the prevalent diseases, the occupation of the people, and the cycle and occurrence of epidemics,¹¹ the said factors should be taken into consideration in the preparation of the Health Barometer for a certain municipality or province, but these factors were disregarded in the instructions given. Altho this oversight was in part corrected by the instructions given in Circular U-11, dated February 20, 1922,¹² the Health Barometer, as it is still being prepared, cannot be considered as an accurate portrait of the real sanitary conditions of a certain locality, because its preparation is not based on the principles of the theory of probability which states that by knowing what has happened in the past, one may predict what will happen in the future.

The purpose of this paper is to outline in the clearest and simplest manner possible a method that could be easily understood and applied by each district health officer or president of sanitary division to check epidemics and at the same time to indicate to the said officer the real sanitary condition of the locality entrusted to his care.

HOW TO PREPARE EPIDEMIC AND HEALTH INDEX

In the number of the "American Journal of Public Health" corresponding to the month of April, 1925, there was published a notable paper entitled "Method of Early Detection of Epidemic Trends,"¹³ written by Dr. Herman N. Bundesen and Mr. Arthur W. Hedrich, Commissioner of Health and Director of Surveys, respectively, in the Department of Health of Chicago, Illinois.

¹¹ The Principles of Vital Statistics, by S. S. Falk, Ph.D., 1923 edition. Chapter IX, pages 219-237.

¹² Annual Report of the Philippine Health Service for the year 1922, page 320.

¹³ "Method for Early Detection of Epidemic Trends," American Journal of Public Health, April, 1925, pages 289-296.

PHILIPPINE HEALTH SERVICE

HEALTH BAROMETER

MUNICIPALITY OF _____

YEAR 1921

PROVINCE OF _____



The method explained by the authors is no other than the scientific preparation of a Health Barometer, already called by Doctor Thompson Health Index and Epidemic Index by them. This Epidemic Index is based on the occurrence and expectancy of cases of communicable diseases, or in other words, the trend of epidemics.

Now, if the method is applied to the current and expected crude mortality of a community, we are dealing with the Health Index, and when it is applied to the current and expected cases of a communicable disease, we deal with Epidemic Index.

The best way to show how delightfully simple is the preparation of a health or Epidemic Index, is to work out an example by preparing the Epidemic Index of the typhoid fever for the City of Manila.

COLLECTION OF DATA AND ARRANGEMENT OF SAME

The first step in the preparation of the typhoid epidemic index for the City of Manila is to collect by weeks or by months the number of cases of typhoid fever registered during a certain number of years. We have collected the number of cases of typhoid fever from the year 1916 to 1924, both inclusive, and we began to collect the data from the year 1916, because in that year typhoid fever was declared a reportable disease in the City of Manila.

Table "A" shows the number of cases from typhoid fever in the City of Manila (residents only), grouped in chronological order and in magnitude by months.

The *three central median case* for each month and for the whole year has been computed by adding the number of cases corresponding to the 4th, 5th, and 6th orders, and then dividing by three. The quotient is the said *three central median*. Example: The three central median for the month of January is $(61 + 46 + 38) \div 3 = 48$ and $48 \times 100 \div 593 = 8.1$, is the per cent of the total three central median for the same month.

Calculation of the expectancy.—Doctor Bundesen defines expectancy¹⁴ as the approximate number of cases of a given disease that may be expected to occur during a certain week or month in the absence of epidemics. Applying this conception of expectancy to our example, we may say that the *three central median*, as computed, is the normal average representation of the cases from typhoid fever in the City of Manila for the period of time from 1916 to 1924, both inclusive. Now if it could be

¹⁴ American Journal of Public Health, April, 1925, page 291.

possible to have all the factors that may contribute to the typhoid situation in the succeeding years remain constant, the said *three central median* shall indicate the cases that are expected to be registered in the succeeding years.

Then if we obtain the *ratio* of the actual cases to those expected, this ratio may be used for the early detection of epidemic movements. The lower the ratio the farther the epidemic. An increase in this ratio means an approach of the epidemic, and when the value of this ratio is over 100, the epidemic is in full development.

After these preliminary explanations let us go into the details of the computation of the expectancy. We shall use the mathematical method known as *least squares* for such computation, but in such a way that any high school student will have no difficulty in following it.

The basic formula is the formula for a straight line which is $y=a+bx$.

For the computation of constants a and b , the following equations are planned:

$$na+S(x) \ b=S(y)$$

$$S(x)a+S(x^2)b=S(xy)$$

in which n means the number of years under consideration (in this case 9 years). The meaning of the other symbols are clearly stated in Table "B."

Following the computations indicated in Table "C," we obtain the total number of cases expected in each year during the period of time from the year 1916 to 1925, both inclusive, and in function of the *three central median* tabulated in Table "A."

If we continue to increase the value of x to greater than *ten*, we will have the cases expected for the years 1926, 1927 and so on; but for obvious reasons, it is preferable to change the Epidemic Index every five or seven years.

By the preceding computations we have obtained the total number of cases expected in each year. Now, to determine the number of cases expected by months, we need only to multiply the "normal distribution" corresponding to each month by the total in the year, and the product is the monthly expectancy. Thus, in Table "D" and in the years 1916-1917, multiplying 8.1 by 260, we get 21 cases expected for the month of January, and so on for the other months.

Multiplying by 100 the number of cases reported and dividing the product by the number of cases expected, we have the

ratio of the number of cases reported to that expected. This ratio is really the so-called Epidemic Index. Thus, in Table "D," and with reference to the Epidemic Index for the year 1916, by multiplying 12 by 100 and dividing by 21, we get the quotient of 57, which is the epidemic index for the month of January, and so on for the other months and years.

Cases reported, cases expected, and Epidemic Index data may be tabulated as on Table "D." This type of tabulation has been modeled after that given in the paper mentioned above, written by Doctor Bundesen and Mr. Hedrich.¹⁵

Charts I and II have been prepared from the data given in Table "D." The distribution of cases reported and expected by months can be more easily appreciated in Chart I.

In Chart II (Epidemic Index) we call *one hundred line* the line showing the limit between what we may call normal and abnormal status of typhoid fever in the City of Manila for the period of time from 1916 to 1924. If the Epidemic Index (ratio between the cases reported and cases expected) falls under the line, the situation is normal, but if it goes over the said line, there is an epidemic. The approach of the curve representing the Epidemic Index to the *one hundred line* indicates the beginning of an epidemic.

Also, in Chart I we can appreciate the direction of the straight line represented by the formula $y = a + b \times$. If this line follows an ascending direction, it means that the conditions are not satisfactory, but, on the contrary, if it follows a descending direction, the conditions are satisfactory or improving.

Studying the Epidemic Index curve of the typhoid fever in Charts II and I, we observe the following facts:

(a) The gradual increase in the expectancy (dotted line) since the year 1916, or in other words, the straight line showed an ascending direction (Chart II).

(b) The low incidence in the first quarter of the year 1920.

(c) The gradual approach of the incidence to the expectancy during the months of May and June of the year 1920.

(d) The imperceptible oscillation in incidence during the year 1921, shown by the short distance maintained by the Epidemic curve from the *100 line*.

(e) The sudden epidemic in the last quarter of the year 1918; in the month of February, 1922, and in the month of January 1923.

¹⁵ American Journal of Public Health, April, 1925, page 293.

(f) The marked descent of the epidemic index since the month of July of the year 1923.

SUMMARY

In this paper we have applied the Epidemic Index method to typhoid fever disease in the City of Manila. The same procedure could be followed for the preparation of the Epidemic Index for cholera, smallpox, dysentery, or any other communicable disease. Now, if we substitute in the tables given above the number of cases of a communicable disease with the total number of deaths registered in any community, we will have the Health Index of that community; and if the method is applied to the total number of deaths under one year, we will have the "Infant Mortality Index."

The value of these indices for the early detection of epidemics cannot be overemphasized. They are the real and scientific Health Barometer of a community which automatically and in due time warns the conscientious health officer of the approaching storm and thus enables him to take the proper measures to control immediately an epidemic, or at least, to minimize its destructive effects.

District health officers and presidents of sanitary divisions, at least, because of the benefit that will be derived by the community entrusted to their care, should consider the Health Index (or Health Barometer) of their districts as an instrument of absolute necessity. They must prepare carefully and scientifically the said Health Index, because its preparation does not present great difficulties. The mathematical computations needed are so easy that any mediocre high-school student can perform them rapidly.

TABLE A.—*Cases of typhoid fever—City of Manila—Residents only*
Arranged chronologically and in magnitud

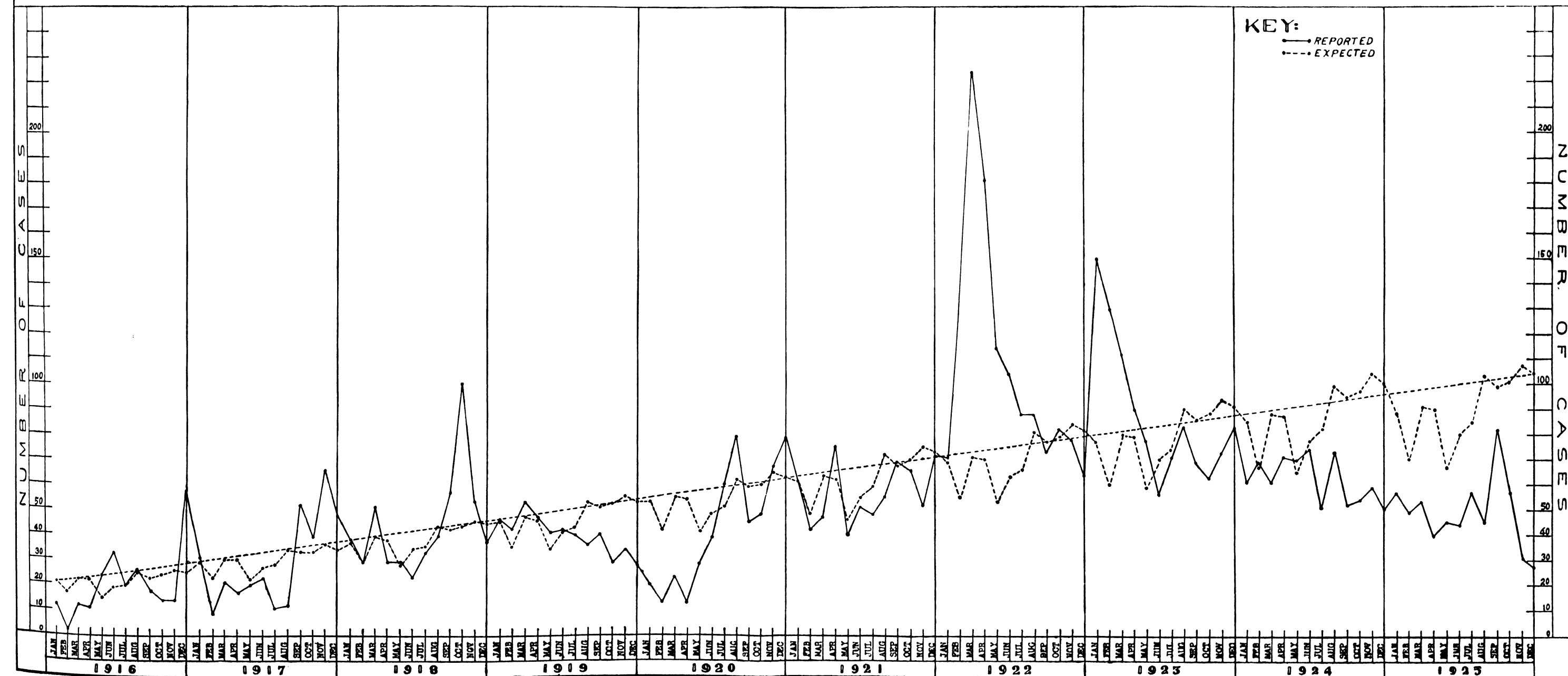
CHRONOLOGICAL

Years	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1916.....	12	2	12	11	24	33	20	26	18	14	14	57	243
1917.....	31	9	21	17	20	23	11	12	52	39	66	47	348
1918.....	38	29	51	29	23	23	33	39	57	100	53	87	518
1919.....	46	42	53	47	41	42	40	36	40	29	34	28	478
1920.....	20	13	23	13	28	39	60	79	45	48	68	79	515
1921.....	61	42	47	75	40	51	48	55	69	66	52	72	678
1922.....	71	181	224	181	114	104	88	88	73	82	78	64	1,298
1923.....	150	130	112	90	78	56	71	83	69	63	72	83	1,057
1924.....	61	69	61	71	70	74	51	73	52	54	59	50	745

TYPHOID FEVER - CITY OF MANILA - RESIDENTS ONLY

EXPECTANCY OF CASES COMPARED WITH CASES REPORTED

1916 - 1925



Oversized Foldout

TABLE A.—Cases of typhoid fever—City of Manila—Residents only
Arranged chronologically and in magnitud—Continued

IN MAGNITUD

Years	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Order 1	150	131	224	181	114	104	88	88	73	100	78	83	
2	71	130	112	90	78	74	71	83	69	82	72	79	
3	61	69	61	75	70	56	60	79	69	66	68	72	
4	61	42	53	71	41	51	51	73	57	63	66	64	
5	46	42	51	47	40	42	48	55	52	54	59	57	
6	38	29	47	29	29	39	40	39	52	48	53	50	
7	31	13	23	17	28	33	33	36	45	39	52	47	
8	20	9	21	13	24	23	20	26	40	29	34	37	
9	12	2	12	11	20	23	11	12	18	14	14	28	

MEDIAN

Three central median	48	38	50	49	37	44	46	56	54	55	59	57	593
Per cent of total median	8.1	6.4	8.4	8.3	6.2	7.4	7.8	9.5	9.1	9.3	9.9	9.6	100

TABLE B.—Computation of the constant for expected cases from typhoid fever City of Manila—Residents only

Years	y Reported cases	x	x ²	Product of xy
1916	243	1	1	243
1917	348	2	4	696
1918	518	3	9	1,554
1919	478	4	16	1,912
1920	515	5	25	2,575
1921	678	6	36	4,068
1922	1,298	7	49	9,086
1923	1,057	8	64	8,456
1924	745	9	81	6,705
Summation = 9	5,880	45	285	85,295

COMPUTATION OF CONSTANTS

Formula of a straight line: $y = a + bx$

For the computation of constants: $na + S(x^2)b + S(x)b = S(xy) = S(y)$

$$S(x)a$$

CASES

$$\begin{array}{l}
 n = 9 \\
 S(x) = 45 \\
 S(x^2) = 285 \\
 S(y) = 5880 \\
 S(xy) = 35295
 \end{array}
 \left\{
 \begin{array}{l}
 9a + 45b = 5880 \\
 45a + 285b = 35295 \\
 45a + 225b = 29400 \\
 45a + 285b = 35295 \\
 60b = 5895 \\
 b = \frac{5895}{60} = 98.25
 \end{array}
 \right.
 \begin{array}{l}
 9a + 45 \times 98.25 = 5880 \\
 9a + 4421.25 = 5880 \\
 a = \frac{5880 - 4421.25}{9} = 162.08
 \end{array}
 \left.
 \begin{array}{l}
 a = 162.08 \\
 b = 98.25
 \end{array}
 \right\}$$

Value of extreme points of the straight line—

$$\text{Cases } x = 1 \quad y_1 = 260.33$$

$$x = 9 \quad y_9 = 1046$$

TABLE C.—*Computation of values of y's in cases from typhoid fever. City of Manila—Residents only*

Formula: $y = a + bx$ $a = 162.08$ $b = 98.25$

Year	x	y 's	Cases	Expected
1916	1	y_1	$= 162.08 + 98.25 \times 1 = 162.08 + 98.25 =$	260.33
1917	2	y_2	$= 162.08 + 98.25 \times 2 = 162.08 + 196.50 =$	358.58
1918	3	y_3	$= 162.08 + 98.25 \times 3 = 162.08 + 294.75 =$	456.83
1919	4	y_4	$= 162.08 + 98.25 \times 4 = 162.08 + 393.00 =$	555.08
1920	5	y_5	$= 162.08 + 98.25 \times 5 = 162.08 + 491.25 =$	653.33
1921	6	y_6	$= 162.08 + 98.25 \times 6 = 162.08 + 589.50 =$	751.58
1922	7	y_7	$= 162.08 + 98.25 \times 7 = 162.08 + 687.75 =$	849.83
1923	8	y_8	$= 162.08 + 98.25 \times 8 = 162.08 + 786.00 =$	948.08
1924	9	y_9	$= 162.08 + 98.25 \times 9 = 162.08 + 884.25 =$	1,046.33
1925	10	y_{10}	$= 162.08 + 98.25 \times 10 = 162.08 + 982.50 =$	1,144.58

TABLE D.—*Cases expected, cases reported, and epidemic index. Typhoid fever—City of Manila—Residents only*

	Whole year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Normal distribution	100	8.1	6.4	8.4	8.3	6.2	7.4	7.8	9.5	9.1	9.3	9.9	9.6

1916-1917

Expected	260	21	17	22	22	15	19	20	25	23	24	26	25
Reported	243	12	2	12	11	24	33	20	26	18	14	14	57
Epidemic Index		57	12	55	50	150	174	100	104	78	58	54	230

1917-1918

Expected	359	29	23	30	30	22	27	28	34	33	33	36	34
Reported	348	31	9	21	17	20	23	11	12	52	39	66	47
Epidemic Index		107	39	70	57	91	85	39	35	158	118	184	138

1918-1919

Expected	457	37	29	39	38	28	34	35	43	42	43	45	44
Reported	518	38	29	51	29	29	23	33	39	57	100	53	37
Epidemic Index		102	100	131	76	104	68	95	91	136	233	118	84

1919-1920

Expected	555	45	35	47	46	34	41	43	53	51	52	55	53
Reported	478	46	42	53	47	41	42	40	36	40	29	34	28
Epidemic Index		102	120	113	102	121	102	93	68	78	56	62	53

1920-1921

Expected	653	53	42	55	54	41	48	51	62	59	60	55	63
Reported	515	20	13	23	13	28	39	60	79	45	48	68	79
Epidemic Index		38	31	42	24	68	81	118	128	76	80	104	126

	Whole year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Normal distribution	100	8.1	6.4	8.4	8.3	6.2	7.4	7.8	9.5	9.1	9.3	9.9	9.6

TABLE D.—Cases expected, reported, and epidemic index. Typhoid fever—City of Manila—Residents only—Continued

1921-1922

	Whole year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Expected.....	752	61	48	63	62	46	55	59	72	68	70	75	73
Reported.....	678	61	42	47	75	40	51	48	55	69	66	52	72
Epidemic Index.....		100	87	75	121	87	93	81	76	102	94	70	99

1922-1923

Expected.....	850	69	55	71	70	53	63	66	81	77	79	84	82
Reported.....	1,298	71	131	224	181	114	104	88	88	73	82	78	64
Epidemic Index.....		103	240	318	258	215	166	134	109	95	104	93	78

1923-1924

Expected.....	948	77	60	80	79	59	70	74	90	86	88	94	91
Reported.....	1,057	150	130	112	90	78	56	71	83	69	63	72	83
Epidemic Index.....		195	217	140	114	132	80	96	93	80	72	77	91

1924-1925

Expected.....	1,046	85	67	88	87	65	77	82	99	95	97	104	100
Reported.....	745	61	69	61	71	70	74	51	78	52	54	59	50
Epidemic Index.....		72	103	69	82	108	96	62	74	55	56	57	50

1925-1926

Expected.....	1,144	93	73	96	95	71	85	89	109	104	106	113	710
Reported.....		57	49	53	40	45	44	57	45	82	57	81	27
Epidemic Index.....		61	67	55	42	63	52	64	41	79	54	27	24

TOILET FACILITIES OF RAILROAD STATIONS

By M. MAÑOSA

Sanitary Engineer, P. H. S.

GENERAL CONSIDERATIONS

It seems to many that the problem of toilet facilities for railroad stations is of an easy solution, chiefly due to the popular idea that, whatever be the cost of its installation, it is very small or insignificant in comparison with all the other expenses both in investment and in maintenance. Had it been a mere question of money, there is no doubt that the toilet facilities of our railroad stations would have been solved long time ago; but, unfortunately, it is not purely an economical problem and there lies the difficulty. The sanitary education of the masses has a great deal to do with its satisfactory solution and what is more important is that part that involves the knowledge of self-protection as well as the familiarity to the courtesies due to other fellow users.

It appears that the main trouble encountered in the operation and maintenance of the railroad latrines is due to the long established local practice of the visitors to use sticks, pieces of coconut husk, and other rigid materials after each use and also of the apparent carelessness in the proper use of seats. To this, it must be added the lack of interest on the part of users to leave conditions as prior to their visits, that is, without soiling and wetting the seats. And in some cases the non-closing of the seat-holes when conditions compel to do so.

In view of the above statements, the problem of toilet facilities for railroad stations is a matter that concerns not only the railroad authorities but also to a large extent the Philippine Health Service.

PRESENT CONDITIONS OF THE RAILROAD LATRINES

At the outset, it may be stated that I have inspected only the railroad stations along the Manila-Aloneros line, and all the findings in this report are based on the conditions observed along this road. Doctor Bertol, Chief Physician of the Company, who accompanied me, stated, however, that the conditions

existing on all other railroad stations are similar to those found on the above line.

CLASSES OF EXISTING RAILROAD LATRINES

As to their present conditions, I would classify the railroad latrines as follows:

(a) *Exceptionally good ones.*—Like those of stations of Calamba and San Pablo, Laguna, which can be considered as above the standard of the average users, and consequently they need a considerable care to keep them in proper working order.

(b) *Good ones.*—Those that satisfy only the majority of users, but not the educated ones, like those operated in all other stations, and that also need a great care in order to keep them in a sanitary condition.

(c) *Condemned ones.*—Those that were closed by the Company, because of the impossibility of keeping them in safe sanitary condition.

(d) *Dilapidated ones.*—Those which are not used, also because of their dangerous state of repair, apparently due to the reason stated in (c) and the hopeless effort of the authorities of the Railroad Company to confine their use to train passengers only, and not to the public living in the vicinity.

Those classified under (a) are provided with flush-tank toilets and urinals in concrete building. The sewage is passed thru a septic tank and then discharged to open canals.

Those classified under (b) as a whole, are sanitary pails which are disposed of periodically on selected isolated places. No attempt was made to investigate their operation and maintenance as there was no time for it. There are one or two exceptions in which earth privies or Antipolo systems constructed in the ordinary way are used. The toilet of Lucena, although of the flush-closet and septic-tank type, because of the low class of fixture (third class only), is also included under this classification.

LOCAL FACTORS CONSIDERED IN THE CONSTRUCTION OF LATRINES

Mention must be made even briefly of some of the factors that may have an influence in the installation of a railroad latrine at its location in order to facilitate the choice of type and method of disposal. For the sake of simplicity, I suggest the following:

1. Stations with pressure water supply available.

2. Stations where no water supply is available under ordinary conditions.

3. Same as 2, but the surrounding ground of the station is on a marshy land.

4. Same as 2, but the station is located near the coast line, either seashore or river bank.

Besides those above-enumerated factors, of course there are many other local conditions that should be taken into consideration in making the choice of treatment such as the geological formation of the ground, if there are facilities for natural drainage, if ground water is used or not, if proposed location is overcrowded or not, the number and class of users, etc. All these and perhaps other more not specified, if needed to take into consideration, shall be left to the management to take care of, inasmuch as they could very well be considered specific local conditions and will depend on the particular station considered. Furthermore, no attempt will be made to classify the latrines in accordance with the importance and size of the stations.

POSSIBLE METHODS OF DISPOSALS

In view of all the above considerations, a brief description will now be made of the current practice of sewage disposal in the Philippines for the possible application to the particular problem of the railroad stations, and taking into account the local factors as enumerated hereinbefore.

WHEN PRESSURE WATER IS AVAILABLE

The toilets of the "flush type" as constructed and operated at present and mentioned above, as class "exceptionally good ones," should deserve the first choice, especially for the first-class passengers. In the installations of the existing ones, however, I have found a few deficiencies, as for example: the lack of vent pipes of some of the fixtures, the location of the septic tanks in one case on the roadway, and the little importance that is given to the disposal of the effluent. For the sake of brevity, I will not discuss in this report the desirability of taking into account these points in the installation of new latrines, but will certainly be glad to do it on another occasion if desired. Of course, the present latrines of this type without varying the method of sewage disposal could be constructed much cheaper by building the latrine-shed of lumber or other materials cheaper than reinforced concrete or to match with other types of stations; and what it has been said of the latrine building, it could

also be said of the septic tank, especially when the ground water in the immediate vicinity is not collected and used for domestic purposes as shown in Figure 2 of sketch 1. But the type of toilet-fixtures must invariably correspond to the classes of passengers, first-class fixtures for the first-class passengers.

If the flush-type fixtures are found objectionable for the third-class passengers, sketches 2 and 3 are suggested; they embody the same method of disposal of the extra by septic process or tank treatment. Sketch 3, in our opinion, can be built cheaper than sketch 2. If the procedure shown in sketch 3 is used, it is necessary that the cement trough be constantly filled with the necessary quantity of water and emptied once a day, preferably at the close of the day's work. To do this, the opening of the "gate valve" or the "lift gate" at the time of cleaning is needed. It is shown in this sketch an eight-inch ordinary cast iron gate valve which can be substituted with any kind of device to stop or hold back tight the water contained in the concrete trough, it could be substituted, as shown with a wooden plug of any kind of stopper and operated by levers and by hand, the only requirement is that it should absolutely be water-tight. When discharging the content of the trough after the day's use, care must be taken to avoid that the floating materials, such as sticks, papers, etc., adhere to the sides and bottom of the receiving trough; with little skill on the part of the leaper, advantage of the carrying capacity of the flow of the water stored in the receiving trough could be taken without much difficulty. It will be noted that both types, sketches 2 and 3, are provided with squatting seats as per detail shown in sketch 4. The screening of all the openings of the latrine-shed shown in sketch 2 is of primary importance due to the necessity of avoiding the breeding of flies.

WHEN THERE IS NO WATER SUPPLY AVAILABLE

Besides the pail system now in use and in operation in many railroad stations, the privy tight vault as shown in Figure 2, sketch 5, and the dry earth method as shown in figure of the same sketch can be used. It must also be noted that this sketch shows within the latrine room a barrel containing dry earth or other absorbing material, for the purpose of covering the dejecta after each use. If it is desired that this operation be not done by the visitors, a caretaker or a laborer can be especially assigned for this work. He must be instructed to perform the operation just a little after the departure of trains from stations.

The toilet building or latrine for this method of disposal must also be thoroughly screened against flies.

WHEN RAILROAD STATION IS ON MARSHY LAND

It has been hinted to construct a high latrine overhanging a portion of the lowland and just let drop the dejecta over the marshy ground. This procedure indeed will dispose completely whatever excreta is deposited, but in the period of low tides, I am afraid that the dropping will be left exposed on the bare ground and may give rise to aërial nuisances, besides being very unsightly and extremely dangerous due to the attraction of flies. A very good sample of this is now experienced in Aloneros with the latrine located at one side of the "pantalan." A modification of the above suggestion is submitted in Figure 1, sketch 1, wherein it will be noted that the main intention is to keep a shallow tank or box underneath to contain water for the recipient of the excreta. The latrine proper does not need in this occasion to be screened. The existing wooden latrine types could very well be utilized for the purpose. The next high tide will automatically clean and dispose of whatever amount is deposited in the open box. It is recommended that the shed be constructed as far as possible from coast line.

IN CASE THE RAILROAD STATION IS LOCATED NEAR SEASHORE OR BANK OF A RIVER

It has also been hinted the same procedure as stated above in the preceding paragraph (15), and perhaps it would be the ideal solution if the river water or seashore be not used for other purposes. This condition has been placed under special heading and paragraph, chiefly to give importance to the necessity of the final disposal of either excreta or sewage effluent from tanks which, if not done properly, may cause harm to people living in the vicinity or to people taking advantage of the river or beach. Before deciding the matter definitely, the health officer of the district should be consulted of the desirability or not of such method of disposal. If there is no objection to it because it does not endanger the health of the community, there is no doubt that it would be a convenient method considered in many respects. The above warning should also be applied in regard to the final disposition of the effluent from tanks. The common belief that the effluent from septic tanks is safe sanitarily speaking, is not true. Especial precautions should be taken in discharging such effluents. Sketches 6

and 7 give an idea of two ways of disposing sewage effluent from septic tanks, in case the discharging to a river or to shore line is considered dangerous, and also when the chances of surface drainage is limited.

ADEQUATE LATRINES IN RAILROAD STATION IS ESSENTIAL

Every body knows that adequate facilities when available, invite the observation to regular habits. Many a time when nature calls and the last hour hurries keep one in answering it at the place where it would be most desirable, one is compelled just to seek for it at the very place where is bound to; and in our opinion, there would be nothing better that could give more credit to the Railroad Company than a well-established standard of public conveniences. And he who thinks otherwise, certainly falls short in the sense of fairness and does not realize the dangers to health of the postponement of the bowel function. This involves, to a certain extent, public right and, consequently, at best it should be considered as a public-health problem because its absence will not only sooner or later constitute a nuisance to the station in itself and to people living in the vicinity, but it may be a potential danger to the health of the community.

CONSTANT MAINTENANCE

Important as it is the establishment of adequate toilet facilities in railroad stations in our belief, it is still more important their sanitary upkeep and maintenance. We realize to its full value the difficulties encountered by the railroad authorities in the operation of their present latrines, but also earnestly believe that, whatever amount is needed in this respect, it will pay much more in the form of credit of a good and a complete service. Constant supervision and maintenance are of primary requisites in the establishment of public toilets, regardless of its type of construction and operation. The principal reason why a great number of our public comfort stations established elsewhere by public funds are dismal failures is due to the lack of attention and proper maintenance. This Office has said to many co-workers over and over again that the problem of public toilets is not a matter of first investment but simply one of upkeep and maintenance. Because if it is not treated so it is likely to degenerate into an insanitary, unsightly, and detrimental place in the near vicinity. The Railroad Company is, indeed, in a better position to accomplish this end and, no doubt, it could be done without any extra expenses with its present force in

its stations. The same remarks hold true in the upkeep of the treatment devices used. Septic tanks should be inspected and cleaned when necessary.

And finally, although a railroad station latrine could be constructed in such a way as to be properly located, adequately designed and suitable in every respect sanitarily considered, still it would not fulfill its purposes if the users do not respond in the same spirit that has moved in its installation, or, in other words, if the visitors do not know how to use it properly. This matter is entirely beyond the powers of the railroad officials and that, in our opinion, should be looked for by the local health officers of the particular district. How could it be carried out? It is indeed very difficult to give a definite answer unless a particular place and condition is known before hand. But, I would like to call especial attention to the fact that the railroad officials are not in any way authorized to look for nor would it be very proper for them to call the attention of their patrons of the existence of certain sanitary regulations. Perhaps, the occasional talk of the medical health officer in school assembly or the regular call of a sanitary inspector at the place during the period when it is most crowded correcting the improper habits in the spot, would do more than to take other measures or issue written orders, as such duty falls within his legal power. I understand that the Manila Railroad Company has its own medical officers distributed along their respective lines by sections, but it would be good thing if a thorough understanding and closer coöperation between the health officers of the Philippine Health Service and the medical officers of the Company could be encouraged for the best interests of both parties. I am sure that the medical staff of the Manila Railroad Company is ready to share its part.

Before closing, I must express my thanks to the General Manager of the Railroad Company for the courtesies extended to me and the opportunity that was given this Office to study the problems of toilet facilities for Railroad stations, and to Doctor Bertol for his kind and heartfelt coöperation.

SMALLPOX IN MINDORO

By PEDRO JOVEN

Medical Inspector in Charge of Systematic anti-smallpox vaccination

This report is in connection with smallpox registered in Mindoro and the measures taken for the control thereof with a view to avoid its spread in that province and the rest of the Archipelago.

From data obtained, it could be deduced that 7 cases were registered with 4 deaths, all in one family in only one house and in the barrio of Dulañgan, municipality of Baco, 25 kilometers distant from the población. The said barrio has a population of about 100 persons. No other case has previously been registered in other places except some cases of varicella.

The three survivors are the mother of about 35 years of age with positive mark of vaccination, completely cured, but judging from the scar the eruption was very mild; a female child of 18 years of age with confluent eruptions and was seen during the period of desquamation; the last is a male of 17 years and was seen at the very eruptive stage and of a mild character. The last two bear positive signs of previous vaccination. The four cases who died were Florentina and Adriana Bunguin of 2 and 10 years of age, respectively, and occurred during the later part of March and secretly burried in the same barrio. The other two were Ciriaco and Antonino of 9 and 5 years of age, the cases occurring of the 23rd and 24th of April, respectively, and burried in the same place where the former two were burried. These four were brothers and sisters. Of the four deaths mentioned, only the cadaver of Ciriaco was examined by sanitary inspector Abrigo of Baco prior to interment. According to statements made by inspector Abrigo the deceased died from smallpox of somewhat virulent character. From information received, the first two deaths were burried secretly at the indication of the councilor of the barrio, but the mother of the children stated that the deaths were not reported to avoid any trouble, at the same time affirming that the children did not die of smallpox but only from fever.

The statement of the mother is not to be believed and it is more logical to deduce that they were cases of smallpox, especially the child of two years (perhaps not vaccinated), whatever the origin of the infection may have been. It is supposed that the other 3 deaths were not previously vaccinated although the mother stated otherwise. At all events, if they have been vaccinated, the vaccination must have been negative.

From November of last year Vaccinating Party No. 2 has been operating in Mindoro and has passed through Baco and Dulañgan as in all other places inspected by me. Although the work performed by this party was not very complete, doubtlessly their activities have to some extent increased the average immunity of the municipalities wherever they have operated, which immunity may be considered at present with an average of 80 per cent. Of children from 1 to 5 years, about 40 per cent found without positive mark of vaccination and those below one year have not been vaccinated.

It may, therefore, be supposed that those children who died from smallpox were not vaccinated because they hid themselves from the vaccinators or because if, as stated by the mother, they were really vaccinated, the vaccination must have given negative results.

The first measures taken were the quarantine of the house by the Constabulary men and the systematic vaccination of the barrio of Dulañgan. I have extended the quarantine to all other houses with their occupants in the place of infection. The houses were all disinfected. All passengers embarking and disembarking were vaccinated in all ports of Mindoro. The extension of the same measure in the ports of Batangas, Marinduque, Tayabas, and in Manila is recommended. Moreover, treatment has been given to all patients, including a small amount of money from my personal funds. I have interviewed the provincial governor to solicit help necessary for the sustenance of those under quarantine.

It is very necessary that about 4 or 5 sanitary inspectors, trained in the smallpox campaign, be sent immediately to Mindoro to render effective the measures taken in the principal ports of the said province. It is also necessary that about 10,000 units of vaccinia virus and a sufficient supply of cotton and alcohol be supplied. Telegraphic requisition for these supplies has not been made from Calapan because from the 28th of April to the 1st of May the lines between Manila and Mindoro were out of order.

Lastly, it is not possible to definitely state the origin of the in-

fection, although it may only be attributed to the fact that the previous cases of varicella may have been really cases of varioloid; should such be the case, from where must have the infection originated?

Before concluding, I desire to state that I have noted a certain degree of laxity in the organization and discipline on the part of the sanitary personnel of Mindoro, and even before this date there is indication to show to some degree their negligence in the performance of their duties relating to the anti-smallpox vaccination campaign and to the distribution of virus in the municipalities, as many of the packages have been retained and forgotten in the box of the clerk in charge of the distribution thereof. Some of the causes of these deficiencies have been given by the district health officer in his report to the Director of Health.

MISCELLANEOUS

MARCH, 1926

ALBAY

The hookworm campaign was carried on in Malinao during the first thirteen days of March, and moved to Tiwi on the fourteenth and continued there until the thirty-first. Of 703 persons examined, 664 or 94 per cent had intestinal parasites of some kind; 331 or 46 percent had hookworm; 412 or 59 per cent had ascaries; and 115 or 16 per cent had trichuris. Of the 100 cases of hookworm reexamined 96 per cent were cured. Of the 650 persons examined in the municipality of Tiwi, 599 or 92 per cent had intestinal parasites of some kind; 272 or 42 per cent had hookworm; 415 or 63 per cent had ascaris; 100 cases of hookworm were reexamined with 96 per cent cured.

AGUSAN

During the month there have been injected 1,265 persons against cholera and typhoid of whom 980 were first injection and 285 second injection. There were also 127 cases of yaws treated with neosalvarsan.

BULACAN

The general systematic anticholera inoculation is being pushed in spite of the indifference of the public and the reluctance of the sanitary personnel. Fire broke out in Bocaue and four Lyster bags were temporarily placed at various places for the convenience of those distress. Yaws clinics were held in various places and in this office but not as intensive as in previous years.

COTABATO

The antivariola vaccination campaign is being pushed despite the passive opposition of the people and some care had to be displayed in order to insure success.

The antityphoid and anticholera vaccinations were continued. The medical inspector of the Philippine Constabulary is giving this injection to all enlisted men in the province, the vaccine being supplied by the local office.

The campaign against yaws is still going on and a total of 204 have been treated. The Moro as well as the pagan elements in the province are fully convinced of this modern treatment.

CEBU

Anticholera and antityphoid vaccinations had been continued in the whole district and a total of 2,265 injections were given during February.

On March 12th, the Thirty-fifth Health District was honored by the visit of the Director of Health, General Jacobo Fajardo. In his inspection he found that the sanitary condition of the City of Cebu was very satisfactory. On 26th of March, Doctor Joven, Chief, Office of Vaccination, inspected the City of Cebu and all the municipalities to the south and was satisfied with the state of vaccinations.

ILOILO

Most important undertakings during the month: Anticholera vaccination, instruction of sanitary inspectors and Presidents of Sanitary Divisions, and the finding of a location suitable for a leprosaria.

Cases of yaws found and treated, were 53.

LAGUNA

About 600 persons were vaccinated in San Antonio, an isolated and difficult place to reach.

NUEVA ECUIJA

Doctor Arenas inspected the district during the month.

NUEVA VISCAYA

There were 1,670 dwelling houses inspected; 37 public lectures given with a total attendance of 1,768 persons; 98 written sanitary orders issued of which 89 were complied, the rest still pending; ten new Antipolo closets built and 224 patients treated by the sanitary inspectors alone.

SORSOGON

The general health condition in the district was very satisfactory. Dysentery has been completely eradicated. In Sorsogon it has been found that in some public faucets people were found taking their bath or wash their cloths. The municipal council approved the ordinance proposed by this office, prohibiting such irregularities with fine of ₱10 and one month's imprisonment for each infractor.

SULU

In the yaws clinic a total number of 716 injections were given.

TAYABAS

Vaccination.—Total: With vaccine virus, 4,214; with mixed vaccine, first injections, 2,538; second injections, 411.

ZAMBALES

The general health condition of this district was fair. The communicable diseases registered during the month were:

Amœbic dysentery: Iba, 4 cases, 0 death; Cabangan, 1 case, 0 death. Typhoid fever: Palauig, 1 case, 0 death; Olongapo, 1 case, 0 death; Botolan, 1 case, 0 death; Varicella: Santa Cruz, 4 cases, 0 death; Candelaria, 1 case, 0 death; Botolan, 1 case, 0 death; and Iba, 5 cases, 0 death.

The measures taken were: isolation patients, concurrent and terminal disinfections, and vaccination of contacts against typhoid and smallpox.

PERSONNEL

Dr. Jose I. Orozco, appointed Acting President of the Third Sanitary Division of this district, vice Dr. Joaquin David, has assumed his duties as such.

ZAMBOANGA

Antismallpox vaccination.—During February 2,159 smallpox vaccinations were performed, 1,367 of which were inspected and 721 found positive.

The Commencement Exercises of the Zamboanga General Hospital Training School for Nurses were held March 12, 1926, at the Plaza Theater. Eleven students were graduated. Dr. E. D. Aguilar, Chief, Division of Hospitals, and former director of the school gave the opening remarks and conferred the certificates to the graduates. Fiscal Blanco was the commencement speaker and Dr. C. Manalang, adviser of the class, delivered the address to the graduates. About one thousand people filled up the plaza theater to its full capacity to witness the program which was pronounced a success. A reception and ball at the Zamboanga Club was given by the faculty on the evening of March 13, 1926, in honor of Doctor Aguilar and the new graduates.

Zamboanga Medical Association.—The association held its second scientific session March 1, 1926, at the Zamboanga General Hospital. Doctor Trota read a paper; A case of twisted pedicle of ovarian cyst—simulating acute appendicitis. Major Phillips presented two cases of pneumothorax, spontaneous variety and specimens found in autopsies were shown by Doctor Manalang. Doctors Elago and Santiago were admitted as members of the society.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of March, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹ BY NATIONALITIES

Nationality	Population
Americans	8,134
Filipinos	290,009
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Health districts	Population
No. I. MEISIC:	
1. Tondo	79,705
2. San Nicolas	28,792
3. Binondo	17,398
Total	125,895
No. II. SAMPALOC:	
4. Santa Cruz	51,565
5. Quiapo	15,658
6. San Miguel	4,377
7. Sampaloc	39,186
Total	110,786
No. III. PACO:	
8. Port Area	4,754
9. Intramuros	14,437
10. Ermita	15,931
11. Malate	16,259
12. Paco	15,830
13. Pandacan	5,785
14. Santa Ana	6,589
Total	79,585
Grand total	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS MARCH, 1926**

Date	Pres- sure ¹ mean	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	762.88	25.4	34.4		18.1	3	26.7	27.4
11-20.....	61.61	26.4	34.9	14,15	17.8	18	27.1	28.0
21-31.....	61.56	27.3	34.8	21,29	21.9	22	28.4	29.0

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	65.3	68.3	8	59.9	3
11-20.....	64.4	74.3	20	58.0	17
21-31.....	70.5	75.2	28	65.9	21

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Kms.	Kms.		mm.	mm.	
1-10.....	E	2,072.5	240.0	4	61.1	7.9	3
11-20.....	SE	2,042.5	276.0	17	67.4	8.5	17
21-31.....	Equad	1,930.0	225.5	22	58.8	7.2	21

Date	Sunshine			Rainfall ²	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	62 40	8 55	9	0.1	1
11-20.....	75 00	9 05	15	0.8	1
21-31.....	48 35	8 20	22	1.2	2

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE
CITY OF MANILA, BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	11	4	15	56.39
Filipinos.....	718	660	1,378	55.98
Spaniards.....	4	4	8	48.21
Other Europeans.....	1	5	6	62.78
Chinese.....	35	22	57	37.61
All Others.....	7	5	12	64.68
Total and average.....	776	700	1,476	54.99

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MEISIC:							
1. Tondo.....	202	185	387	12	10	22	409
2. San Nicolas.....	50	38	88	2	3	5	93
3. Binondo.....	22	17	39	1	1	2	41
Total.....	274	240	514	15	14	29	543
No. II, SAMPALOC:							
4. Santa Cruz.....	87	92	179	4	4	8	187
5. Quiapo.....	30	20	50	1	1	2	52
6. San Miguel.....	12	11	23	1	1	2	24
7. Sampaloc.....	110	131	241	8	8	16	257
Total.....	239	254	493	14	13	27	520
No. III, PACO:							
8. Port Area.....							
9. Intramuros.....	38	24	62	2		2	64
10. Ermita.....	45	34	79	5	3	8	87
11. Mala'ne.....	70	55	125	5	3	8	133
12. Paco.....	40	31	71	3	1	4	75
13. Pandacan.....	13	11	24				24
14. Santa Ana.....	13	16	29		1	1	30
Total.....	219	171	390	15	8	23	413
Grand total.....	732	665	1,397	44	35	79	1,476

Attended by physicians, living, 480; stillbirths, 28.

Attended by midwives, living, 97; stillbirths, 1.

Attended by families, living, 949; stillbirths, 15.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	3		3	11.28
Filipinos.....	368	313	681	27.67
Spaniards.....	1	2	3	18.08
Other Europeans.....				
Chinese.....	31	6	37	24.41
All others.....	2		2	10.78
Total and average.....	405	321	726	27.05

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	153	105
Divorced.....		
Widowed.....	35	53
Single.....	301	220
Conditions not stated.....	1	1
Total.....	490	379
Grand total.....	869	

Stillbirths 39
 Number of deaths with medical attendance..... 559
 Number of deaths without medical attendance..... 310

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	91	88	10	10	199
1 year plus	56	33	2	5	96
2 years plus	20	14	5	4	43
3 years plus	12	8	4	6	30
4 years plus	5	5	1	1	12
5 to 9 years	10	13	6	4	33
10 to 14 years	6	5	2	1	14
15 to 19 years	19	6	5	4	34
20 to 24 years	19	18	12	4	53
25 to 29 years	21	15	2	2	40
30 to 34 years	19	10	5	3	37
35 to 39 years	13	15	5	6	39
40 to 44 years	8	14	5	1	28
45 to 49 years	17	10	8	1	36
50 to 54 years	20	13	4	1	38
55 to 59 years	17	3	3		23
60 to 64 years	19	8	2	1	30
65 to 69 years	13	4			17
70 to 74 years	6	14	2	2	24
75 to 79 years	4	5		1	10
80 to 84 years	8	7		1	16
85 to 89 years		6			6
90 to 94 years	2	5			7
95 to 99 years		2			2
100 years and over					
Age not stated					
Total	405	321	83	58	867

NOTE.—Two (2) males Filipino, age and permanent residence unknown, not included in the above table.

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I, MERIC:			
1. Tondo	129	109	238
2. San Nicolas	35	25	60
3. Binondo	16	9	24
Total	179	143	322
No. II, SAMPALOC:			
4. Santa Cruz	76	54	130
5. Quiapo	12	11	23
6. San Miguel	6	5	11
7. Sampaloc	42	43	85
Total	136	113	249
No. III, PACO:			
8. Port Area			
9. Intramuros	16	9	25
10. Ermita	8	5	13
11. Malate	30	26	56
12. Paco	15	12	27
13. Pandacan	12	8	20
14. Santa Ana	9	5	14
Total	90	65	155
Grand total	405	321	726

{Stillbirths not included}

[illegible]

V. Diseases of the respiratory system

97-107	99	Bronchitis:	20	14	1	1	36
		a. Acute.....	8	8	1		17
		b. Chronic.....	1				1
100		c. Unspecified (under 5 years of age).....					
		Bronchopneumonia:					
		a. Bronchopneumonia.....	53	36	3	2	94
101		b. Capillary bronchitis.....	3	7		1	11
		Pneumonia:					
		a. Lobar.....	18	16			34
		b. Unspecified.....	3				3
102		Pleurisy.....	2	2			4
103		Congestion and hemorrhagic infarct of the lung.....	1	1			2
105		Asthma.....	2				2

VI. Diseases of the digestive system

108-127		Diseases of the pharynx and tonsils (including adenoid vegetations):	1	1			2
109		b. Others under this title.....					
111		Ulcer of the stomach and duodenum:	2	2			4
		a. Ulcer of the stomach.....	10	4			14
113		Diarrhea and enteritis (under 2 years of age).....	6	4			10
114		Diarrhea and enteritis (2 years and over).....					
116		Diseases due to other intestinal parasites:	1				1
		c. Nematodes (other than ancylostoma).....	2		1		3
117		Appendicitis and typhlitis.....					
118		Hernia, intestinal obstruction:					
		b. Intestinal obstruction.....	2	2			2
124		Other diseases of the liver.....	2	1	2		5

VII. Nonvenereal diseases of the genito-urinary system and annexa

128-142		Acute nephritis (including unspecified under 10 years of age ^c).....	7	7	1		15
128		Chronic nephritis (including unspecified under 10 years of age ^c).....	7	6	2		15
129		Other diseases of the kidneys and annexa.....		1			1
131		Diseases of the prostate.....	1				1
135		Other diseases of the female genital organs.....		1			1
141							

VIII. The puerperal state

143-150		Accidents of pregnancy:					
		b. Ectopic gestation.....	1				1
143		c. Others under this title.....	1				1
144		Puerperal hemorrhage.....	1				1
146		Puerperal septicemia.....	1				1
148		Puerperal albuminuria and convulsions.....	2				2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
151	Gangrene.....			2										2
152	Furuncle.....			1	4									2
153	Acute abscess.....			1	2									5
154	Other diseases of the skin and anners.....			1										3
159	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included): b. Congenital malformations of the heart			1										1
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema			9	17									26
161	Premature birth; injury at birth: a. Premature birth (not stillborn) b. Injury at birth (not stillborn)			2	4		1			1				8
	Other diseases peculiar to early infancy.....			2	1									3
164	<i>XIII. Old age</i>													
164	Senility.....			8	21									29
165-203	<i>XIV. External causes</i>													
172	Suicide by jumping from high places.....				1									3
179	Accidental burns (conflagration excepted)				1					1		1		1
182	Accidental drowning.....			1										1
185	Accidental trauma:ism by fall.....				1					1				1
199	Homicide by other means.....													1
202	Other external violence.....			1										1
	Total.....	3	368	313		1	2			31	6	2		726
	Grand total.....	3		681		3				37		2		726

II. General diseases not included in class I

128-142	<i>VII. Nonvenereal diseases of the genito-urinary system and annexa</i>	
128	Acute nephritis (including unspecified under 10 years of age).....	
129	Chronic nephritis (including unspecified 10 years and over).....	
138	Salpingitis and pelvic abscess (female).....	
141	Other diseases of the female genital organs.....	
143-150	<i>VIII. The puerperal state</i>	
144	Puerperal hemorrhage.....	
145	Other accidents of labor:	
	c. Others under this title.....	
146	Puerperal septicemia.....	
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>	
151	Gangrene.....	
152	Furuncle.....	
164		<i>XIII. Old age</i>
164	Senility.....	
165-204	<i>XIV. External causes</i>	
171	Suicide by cutting or piercing instruments.....	
179	Accidental burns (conflagration excepted).....	
183	Accidental traumatism by firearms (wounds of war excepted).....	
185	Accidental traumatism by fall.....	
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):	
	a. Railroad accidents.....	
	c. Automobile accidents.....	
189	Injuries by animals (not poisoning).....	
202	Other external violence.....	
	Total.....	
	Grand total.....	

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough					1	1
10. Diphtheria					3	3
21. Erysipelas					1	1
29. Tetanus:						
a. Umbilical				3	1	4
31. Tuberculosis of the respiratory system					1	1
32. Tuberculosis of the meninges and central nervous system					1	1
38. Syphilis					1	1
53. Scurvy					1	1
55. Beriberi:						
a. Infants		1		15	35	51
56. Rickets					1	1
71. Meningitis:						
a. Simple meningitis				1	5	6
99. Bronchitis:						
a. Acute					22	22
b. Chronic					7	7
c. Unspecified					1	1
100. Bronchopneumonia:						
a. Bronchopneumonia					30	30
b. Capillary bronchitis					6	6
101. Pneumonia:						
a. Lobar					8	8
113. Diarrhea and enteritis					9	9
128. Acute nephritis					3	3
153. Acute abscess					1	1
154. Other diseases of the skin and annexa					2	2
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart					1	1
160. Congenital debility, icterus, and sclerema	9	3		6	8	26
161. Premature birth, injury at birth:						
a. Premature birth (not stillborn)	4	3		1		9
b. Injury at birth (not stillborn)	1					1
162. Other diseases peculiar to early infancy	1				2	3
Total	15	7		26	151	199

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	23,343
Number of rats caught by spring traps	2,984
Number of cage wire traps set	682
Number of rats caught by cage wire traps	8
Number and kind of baits (coconuts)	24,025
Number of poison portions placed	14,690
Number of rats found poisoned	197
Number of rats killed by clubs and other weapons	942
Number of rats found dead from other causes	636
Total number of rats otherwise caught, found dead or killed	4,767
Total number of rats sent to the Laboratory for Examination	4,767
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF MARCH, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths				
I.														
No. 1.			1		1				1		1		2	1
No. 2.	3	1							3	1			3	1
No. 3.														
No. 4.	5	1	1						5	1	1		6	1
No. 5.														
No. 6.	1								1				1	
No. 7.	3		2						3		2		5	
No. 8.														
No. 9.	1	2							1	2			1	2
No. 10.														
No. 11.	3		2						3		2		5	
No. 12.	1								1				1	
No. 13.		1								1				
No. 14.														
Total	17	5	6		1	1			18	6	6		24	6

REMARKS:

Cases confirmed as typhoid fever.....	20
Cases confirmed as paratyphoid fever.....	4
By autopsy.....	0
By blood culture.....	0
By widal reaction.....	4
By urine examination.....	0
By feces examination.....	0
By clinical symptoms.....	16
Cases reported among non-resident cases not included in the table.....	15
Deaths reported among non-resident cases not included in the table.....	4
Typhoid Carrier—None.	

DYSENTERIES REPORTED DURING THE MONTH OF MARCH, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female			Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths			
I.	No. 1	2		1	1								2	2		1	1		3	3
	No. 2	1		1	1								1	1		1	1		2	2
	No. 3																			
	No. 4	2		1									2	1					2	1
II.	No. 5																			
	No. 6																			
	No. 7	1		1									1	1		1			2	1
	No. 8																			
	No. 9																			
	No. 10																			
III.	No. 11																			
	No. 12												1	1					1	1
	No. 13																			
	No. 14																			
Grand total	6	5		3	2		1	1		1			7	6		3	2		10	8

REMARKS:

Amoebic dysentery	3
Bacillary dysentery	6
Unspecified	1
Cases reported among non-resident cases not included in the table	10
Deaths reported among non-resident cases not included in the table	11
Dysentery Carrier—None.	

CHOLERA REPORTED DURING THE MONTH OF MARCH, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.	No. 1.																			
	No. 2.																			
	No. 3.																			
	No. 4.																			
II.	No. 5.																			
	No. 6.																			
	No. 7.																			
	No. 8.																			
	No. 9.																			
	No. 10.																			
III.	No. 11.																			
	No. 12.																			
	No. 13.																			
	No. 14.																			
Grand total																				

REMARKS:

No non-resident case was reported during the month.
Cholera Carrier—32.

DIPHTHERIA REPORTED DURING THE MONTH OF MARCH, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	3	1							3	1			3	1
{ No. 1.....														
{ No. 2.....													1	
{ No. 3.....	1								1				1	
{ No. 4.....	4		1						4		1		5	
II.....	2	1							2	1			2	1
{ No. 5.....														
{ No. 6.....														
{ No. 7.....			1								1		1	
{ No. 8.....														
{ No. 9.....			1								1		1	
III.....	2								2				2	
{ No. 10.....														
{ No. 11.....														
{ No. 12.....														
{ No. 13.....														
{ No. 14.....														
Grand total.....	12	2	3						12	2	3		15	2

REMARKS:

Cases reported among non-resident cases not included in the table..... 12

Deaths reported among non-resident cases not included in the table..... 2

Diphtheria Carrier—1.

**OTHER COMMUNICABLE DISEASES REPORTED IN THE CITY OF MANILA
DURING THE MONTH OF MARCH, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	17	7	5	1
Varicella.....	104	54		
Varioloid.....				
Smallpox.....				
Measles.....	26	28	2	1
Whooping cough.....		2		2
Influenza.....	19	9	9	4
Bubonic plague.....				
Encephalitis lethargica.....		1		
Meningitic cerebrospinal epidemic.....	2		2	
Pulmonary tuberculosis.....	151	114	92	70
Tuberculosis of all forms.....	13	2	13	2
Beriberi, infantile.....	28	19	28	19
Beriberi, adult.....				

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	17	8		2
Varicella.....	9	1	1	
Varioloid.....				
Smallpox.....				
Measles.....	11	12	3	5
Whooping cough.....				
Influenza.....	8	1	3	1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	23	13	8	5
Tuberculosis of all forms.....	1	1	1	1
Beriberi, infantile.....		4		4
Beriberi, adult.....		1		1

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR
THE MONTH OF MARCH, 1926**

Sera and vaccines	On hand March 1, 1926	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	215,000	1,000,000	1,215,000	885,000	330,000
Anti-dysenteric serum (ampoules).....	61	100	161	72	89
Anti-tetanic serum (units).....	290,000	599,000	889,000	504,000	385,000
Cholera serum (ampoules).....					
Cholera vaccine (c. c.).....	5,780	920,220	926,000	852,360	73,640
Dried vaccine virus (units).....	60,250	100,000	160,250	106,600	53,650
Fresh vaccine virus (units).....	111,800	200,000	311,800	238,800	78,000
Gonococcus vaccine (ampoules).....					
Mixed typhoid-cholera vaccine (c. c.).....		117,860	117,860	107,460	9,900
Normal Horse serum (ampoules).....		62	62	62	
Typhoid vaccine (c. c.).....	50	22,080	22,130	15,720	6,410

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1926

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated								Total
		Total Vaccinations	Previously vaccinated		Under 1 year	1 to 4 years		5 years and over		Positive	Negative		
			Never	Successfully		Unsuccessfully	Positive	Negative	Positive			Negative	
No. 1.	Tondo.....	1,723	269	1,076	378	358	8	25	25	225	166	608	199
	San Nicolas.....	1,381	85	1,275	21	91	2	9	2	246	274	346	278
	Binondo.....	6,526	166	6,179	181	51	..	22	10	1,044	1,793	1,117	1,803
	Santa Cruz.....	3,680	146	2,553	881	75	2	37	22	1,921	1,672	2,033	1,696
	Quiapo.....	276	20	185	71	41	..	3	4	196	264	240	268
No. 2.	San Miguel.....	597	93	448	56	21	1	6	5	496	154	523	160
	Sampaloc.....	3,677	241	2,926	510	206	3	54	16	1,034	2,131	1,294	2,150
	Port Area.....	..	..	..	..	..	..	..	..	..	..	..	..
	Intramuros.....	69	35	26	8	45	5	1	4	2	9	48	18
	Ermita.....	181	96	31	4	70	3	14	7	10	22	94	32
No. 3.	Malate.....	187	111	67	9	127	2	20	5	11	20	158	27
	Paco.....	270	75	185	10	42	1	24	8	14	18	80	27
	Pandacan.....	60	20	34	6	37	..	19	..	..	..	56	..
	Santa Ana.....	159	19	132	8	29	1	1	3	5	7	35	11
Total.....		17,686	1,376	14,167	2,143	1,193	28	235	111	5,204	6,530	6,532	6,669

VACCINE VIRUS:

Received.....	\$2,100
Used.....	20,700
Remained.....	11,400

ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1926

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.....	258	44	64	24	322	68
	San Nicolas.....	445	106	28	2	473	108
	Binondo.....	318	8	94	4	412	12
	Santa Cruz.....	169	52	33	53	202	105
	Quiapo.....						
No. 2.	San Miguel.....	45		37		82	
	Sampaloc.....						
	Port Area.....	175	13	15	8	190	21
	Intramuros.....	2				2	
	Ermита.....	83	56	52	35	135	91
No. 3.	Malate.....		5		1		6
	Paco.....	19	24	12	14	31	38
	Pandacan.....						
	Santa Ana.....						
	Grand total.....	1,514	308	335	141	1,849	449

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF MARCH, 1926¹

Health districts	Municipal districts	Number of injections made in—										Total number of injections							
		Adults						Children											
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1	Tondo.....		817		556		752	19	468	22	263	27	388	19	1,285	22	819		1,140
	San Nicolas.....		918		914		670		117		150		111		1,035		1,064	27	1,781
	Binondo.....	1	289	3	442		797		200		207		545	1	489	3	619		1,342
	Santa Cruz.....		852		867		744		268		316		309		1,120		1,183		1,063
	Quiapo.....		695		392		271		374		183		139		1,069		575		410
No. 2	San Miguel.....		65		37		28		8		18		73		73		55		28
	Sampaloc.....		990		763		434	17	451	5	327	7	201	17	1,444	5	1,090	7	635
	Port Area.....																		
	Intramuros.....	105	906	58	647	44	471	9	159	2	113	1	70	114	1,065	60	760	45	541
	Ermita.....		25				49						13		25				62
No. 3	Malate.....		517		545		486	14	371	18	355	18	336	14	888	18	900	18	822
	Paco.....		726		482		421		443		340		287		1,169		822		708
	Pandacan.....		54		29		47		30		18		84		84		47		76
	Santa Ana.....		449		396		236		210		142		119		659		538		355
	Total.....	106	7,303	61	6,070	44	5,406	59	3,102	47	2,432	53	2,547	165	10,405	108	8,502	97	7,963

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine used for the third injections.

V, in persons never vaccinated before; R, revaccinations.

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	Vaccinations			
	Total vac- cinations	Previously vaccinated		
		Never	Success- fully	Unsuc- cessfully
Abra.....	10,766	1,135	7,412	2,219
Albay.....	5,463	2,216	625	2,622
Antique.....	21,518	3,996	12,443	5,079
Bataan.....	3,442	1,248	1,099	1,095
Batangas.....	2,561	747	520	1,294
Bohol.....	8,737	1,693	3,384	3,660
Bukidnon.....	354	81	120	153
Bulacan.....	26,603	3,485	21,368	1,750
Camayan.....	2,877	618	1,226	1,033
Camarines Norte.....	1,527	648	464	415
Camarines Sur.....	20,581	2,279	14,865	3,437
Capiz.....	22,002	4,560	15,407	2,035
Catanduanes.....	1,239	334	217	688
Cavite.....	2,769	772	1,043	954
Cebu.....	26,971	7,984	7,813	11,144
Cotabato.....	7,533	2,513	2,161	2,859
Ilocos Norte.....	8,036	2,225	2,369	3,442
Ilocos Sur.....	6,325	1,694	490	4,141
Iloilo.....	13,739	6,033	2,898	4,813
Isabela.....	15,106	3,264	9,878	1,964
Laguna.....	5,518	1,713	2,773	1,032
Lanao.....	674	160	251	263
La Union.....	5,619	1,122	557	3,940
Leyte.....	9,040	3,260	647	5,142
Marinduque.....	1,680	328	268	1,084
Masbate.....	1,771	597	343	831
Mindoro.....	8,959	1,643	6,115	1,201
Misamis.....	10,013	1,663	5,298	3,052
Nueva Ecija.....	11,999	3,620	2,568	5,811
Nueva Vizcaya.....	1,402	88	655	664
Occidental Negros.....	9,587	4,507	2,884	2,196
Oriental Negros.....	3,976	873	1,504	1,599
Palawan.....	199	68	45	91
Pampanga.....	8,424	1,414	3,908	3,102
Pangasinan.....	4,003	1,193	872	1,938
Rizal.....	3,501	1,060	1,703	738
Samar.....	10,533	1,623	7,611	1,299
Sorsogon.....	2,372	1,390	.....	982
Sulu.....	1,940	1,171	216	553
Surigao.....	5,757	1,668	1,806	2,283
Tarlac.....	8,871	1,782	5,281	1,808
Tayabas.....	8,991	3,584	2,650	2,757
Total.....	332,987	82,042	153,782	97,163

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926—Continued ¹**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 5 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	168	85	1,010	266	2,626	1,303	3,804	1,654
Albay.....	966	318	737	215	570	233	2,273	766
Antique.....	680	121	1,645	813	4,009	6,447	6,284	7,381
Bataan.....	681	100	1,205	512	481	313	2,317	925
Batangas.....	188	19	422	147	320	334	930	500
Bohol.....	946	211	1,273	500	2,623	2,014	4,842	2,725
Bukidnon.....	14	1	16	8	44	48	74	57
Bulacan.....	1,153	94	2,074	588	8,632	6,620	11,859	7,302
Cagayan.....	227	21	371	78	1,281	604	1,879	703
Camarines Norte.....	132	21	220	53	305	86	657	160
Camarines Sur.....	635	116	1,926	403	8,101	2,663	10,662	3,182
Capiz.....	631	.....	2,074	169	9,537	3,374	12,242	3,543
Catanduanes.....	144	85	135	47	137	200	416	332
Cavite.....	428	54	519	134	1,056	512	2,003	700
Cebu.....	1,748	672	1,517	573	2,754	2,355	6,019	3,600
Cotabato.....	110	65	437	363	1,535	1,211	2,082	1,639
Iloos Norte.....	987	188	1,728	381	2,046	1,821	4,761	2,340
Iloos Sur.....	1,209	225	1,424	516	1,065	939	3,698	1,680
Iloilo.....	1,084	149	2,323	444	3,889	1,630	7,296	2,223
Isabela.....	328	51	1,203	288	3,879	1,843	5,410	2,182
Laguna.....	759	140	564	326	782	2,136	2,105	2,602
Lanao.....	26	8	40	12	60	16	126	36
La Union.....	459	140	620	508	703	984	1,782	1,632
Leyte.....	551	152	1,117	365	2,223	880	3,891	1,397
Marinduque.....	86	19	216	98	362	74	664	191
Masbate.....	116	51	240	138	500	233	856	422
Mindoro.....	151	3	755	42	3,196	1,499	4,102	1,543
Misamis.....	232	42	971	183	3,398	1,717	4,601	1,947
Nueva Ecija.....	1,510	228	2,809	756	2,794	2,101	7,113	3,085
Nueva Viscaya.....	87	2	102	50	479	775	618	827
Occidental Negros.....	1,259	217	1,536	459	2,946	932	5,741	1,608
Oriental Negros.....	345	107	683	270	1,076	507	2,104	884
Palawan.....	29	7	26	12	51	74	106	93
Pampanga.....	394	129	713	244	1,919	1,220	3,026	1,593
Pangasinan.....	525	93	660	124	879	715	2,064	932
Rizal.....	362	54	429	161	515	649	1,306	864
Samar.....	207	28	1,515	136	2,890	693	4,612	857
Sorsogon.....	171	53	489	156	255	81	915	290
Sulu.....	97	21	349	95	688	169	1,134	285
Surigao.....	136	55	605	289	1,883	1,663	2,624	2,007
Tarlac.....	966	278	1,564	526	2,231	2,535	4,761	3,339
Tayabas.....	1,035	204	2,014	415	3,127	1,562	6,176	2,181
Total.....	21,862	4,577	40,276	11,868	87,797	55,764	119,935	72,209

¹ Incomplete; reports from other provinces not yet received. Vaccinations performed by the Vaccinating Parties are included in the above table.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Agusan.....				
Albay.....	6,105			6,105
Antique.....	9,077			9,077
Bataan.....	15,813			15,813
Batanes.....				
Batangas.....	118,498			118,498
Bulacan.....	29,103	416		29,519
Capiz.....	14,134			14,134
Catanduanes.....	1,950			1,950
Cavite.....	19,139			19,139
Davao.....	922	693		1,615
Ilocos Norte.....	8,303			8,303
Laguna.....	104,107			104,107
Lanao.....				
La Union.....	3,601	1,191		4,792
Leyte.....	8,872	3,991		12,863
Marinduque.....	15,473	4,413	1,263	21,149
Masbate.....				
Mindoro.....	19,985	3,455	220	23,660
Nueva Ecija.....	24,532			24,532
Pampanga.....	17,682	488		18,170
Pangasinan.....	236,466			236,466
Rizal.....	137,606			137,606
Sulu.....				
Tarlac.....				
Tayabas.....				
Zamboanga.....				
Total.....	791,368	14,647	1,483	807,498

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Agusan.....				
Albay.....				
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....				
Bulacan.....				
Capiz.....				
Catanduanes.....				
Cavite.....				
Davao.....				
Ilocos Norte.....				
Laguna.....				
Lanao.....				
La Union.....	1,080	35	33	1,148
Marinduque.....				
Masbate.....				
Mindoro.....				
Nueva Ecija.....				
Pampanga.....	83	74		157
Pangasinan.....				
Rizal.....				
Sulu.....				
Tarlac.....				
Tayabas.....				
Zamboanga.....				
Total.....	1,163	109	83	1,355

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA) VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹

Provinces	First injections	Second injections	Third injections	Total
Agusan.....	3,009	1,318		4,327
Albay.....				
Antique.....				
Bataan.....				
Batanes.....	80	54	52	186
Batangas.....				
Bulacan.....				
Capiz.....	27,163			27,163
Catanduanes.....				
Cavite.....				
Davao.....				
Ilocos Norte.....				
Lanao.....	1,262	328		1,590
La Union.....	213	87	31	331
Marinduque.....	490	102		592
Masbate.....	1,841	523		2,364
Mindoro.....				
Nueva Ecija.....				
Pampanga.....	96	39		135
Pangasinan.....				
Rizal.....				
Sulu.....				
Tarlac.....	30,509			30,509
Tayabas.....	5,967	2,285		8,252
Zamboanga.....	2,241	76	15	2,332
Total.....	72,871	4,812	98	77,781

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF MARCH, 1926

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF MARCH, 1926

Provinces and towns	Cases	Deaths
CAPIZ:		
Libas.....	1	1
MINDORO:		
Pinamalayan.....		1
PAMPANGA:		
Lubao.....	1	1
ROMBLON:		
Romblon.....	20	18
Total.....	22	21

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF MARCH, 1926**

	Health districts			
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	Total
Orders pending March 1, 1926:				
Minor.....	105	97	89	291
Sewer.....	23	54	8	85
Vacating.....	8	14	10	32
Filling.....	10	34	13	57
Total.....	146	199	120	465
Orders issued during the month:				
Minor.....	24	32	15	71
Sewer.....	1	2		3
Vacating.....			1	1
Filling.....			3	3
Total.....	25	34	19	78
Orders completed during the month:				
Minor.....	11	17	7	35
Sewer.....		1	1	2
Vacating.....		1	11	12
Filling.....			1	1
Total.....	11	19	20	50
Orders cancelled during the month:				
Minor.....			1	1
Sewer.....				
Vacating.....				
Filling.....				
Total.....			1	1
Orders pending, March 31, 1926:				
Minor.....	118	112	96	326
Sewer.....	24	55	7	86
Vacating.....	8	18		21
Filling.....	10	34	15	59
Total.....	160	214	118	492
Strong material plans approved:				
New buildings including additions and alterations.....	31	52	34	117
Permits for minor building constructions:				
Approved.....	47	42	38	127
Disapproved.....	7	4	3	14
New buildings completed.....	20	37	55	112
Permits for light and mixed material construction:				
Approved.....	29	49	42	120
Disapproved.....	8	6	13	27
Prosecutions:				
Convictions.....				
Dismissals.....		1		1
Amount of fines.....				
Plumbing permits issued.....	55	82	65	202
Plumbing projects completed.....	47	66	44	157
Premises connected to the sanitary sewer to February 28, 1926	2,469	4,193	554	7,216
Connected during the month.....	7	7	10	24
Total.....	2,476	4,200	564	7,240

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

APRIL, 1926

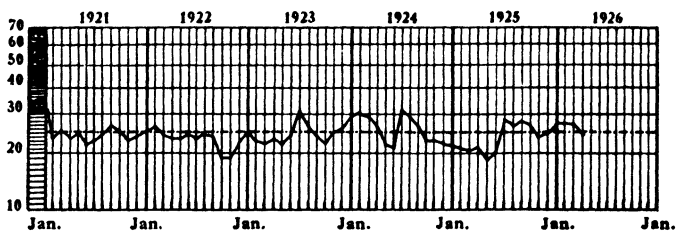
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ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

APRIL, 1926

No. 4

**THE OXIDATION OF CHAULMOOGRIC ACID BY
PERMANGANATE**

By **GRANVILLE A. PERKINS**

ABSTRACT

Derivatives of the peculiar fatty acids of chaulmoogra oil are being used for the treatment of leprosy with marked success. Bacteriological experiments have shown that these fatty acids have a strong selective toxic and growth-inhibiting action on acid-fast bacteria, and we have reason to believe that this fact accounts in part for the clinical effects.

Nevertheless, the curative effects of the medicines now in use leave much to be desired; and work is in progress in this laboratory to prepare, if possible, compounds which will be more bactericidal, less toxic to the patient, and more readily diffusible to the bacteria *in situ*. Chaulmoogric acid was chosen as one of the starting-points for this work, and its oxidation products were among the first derivatives studied.

Barrowcliff and Power described two dihydroxy-dihydrochaulmoogric acids obtainable by the oxidation of chaulmoogric acid, and suggested that these arise from two distinct tautomeric forms of chaulmoogric acid.

It was found that the dihydroxy-dihydrochaulmoogric acids were not completely separated by the previous investigators. Methods of separation were devised which depend in part on the reaction of the glycol grouping with acetone, resulting in cyclic acetals or orthoacetone ethers. The dihydroxy-acids were found to be stereoisomers, both indicating $w-\Delta$ 2-cyclopentene-tridecylic acid to be the correct structure for chaulmoogric acid. However, the origin of n -pentadecane- γ -keto- $\alpha\alpha$ dicar-

boxylic acid, which Power referred to a proposed tautomeric form of chaulmoogric acid, W-1, 3-bicyclopentane-tridecylic acid, is not elucidated. Neither of the dihydroxy-acids give the keto-dicarboxylic acid on further oxidation. On theoretical grounds it seems more reasonable to suppose that the tertiary hydrogen atom of chaulmoogric acid is directly oxidized than that the latter a tautomeric bicyclopentane form.

Bacteriological tests on the various compounds prepared will be reported by Dr. Otto Schöbl, Bureau of Science, Manila.

THE OXIDATION OF CHAULMOOGRIC ACID BY PERMANGANATE¹

By GRANVILLE A. PERKINS

[Contribution from the Chemical Section, Cullion Leper Colony, Philippine Health Service.
Published with the permission of the Director of Health, upon recommendation of the
Philippine Leprosy Research Board.]

Derivatives of the peculiar fatty acids of chaulmoogra oil are being used for the treatment of leprosy with marked success. Bacteriological experiments have shown that these fatty acids have a strong selective toxic and growth-inhibiting action on acid-fast bacteria, and we have reason to believe that this accounts in part for the clinical effects.

Nevertheless, the curative effects of the medicines now in use leave much to be desired; and work is in progress in this laboratory to prepare, if possible, compounds which will be more bactericidal, less toxic to the patient, and more readily diffusible to the bacteria *in situ*. Chaulmoogric acid was chosen as one of the starting-points for this work, and its oxidation products were among the first derivatives studied.

The oxidation of chaulmoogric acid by permanganate was studied by Power and Gornall² and by Barrowcliff and Power³ in the course of an extensive pioneer investigation of the structure of this interesting acid. The present study covers a portion of the field in greater detail and deals especially with the structure and properties of the glycols formed in the first step of the reaction.

THE STRUCTURE OF CHAULMOOGRIC ACID

The question of the structure of chaulmoogric acid is also here involved, but unfortunately the results to date are not decisive on this point. For this reason publication has been deferred for some time. Recently, however, Shriner and

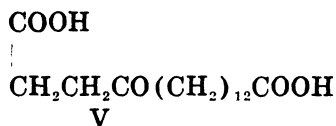
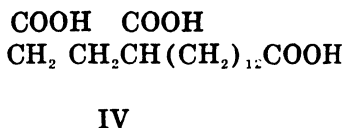
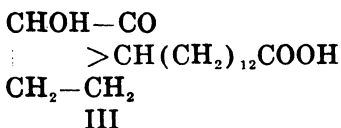
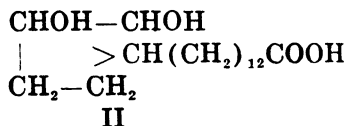
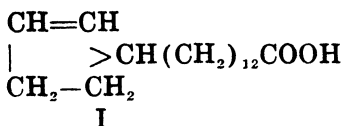
¹ The bacteriological testing of these products is being done by Dr. Otto Schöbl, Bureau of Science, Manila, and is to be reported in the *Philippine Journal of Science*.

² Power and Gornall, *J. Chem. Soc.* 85, 859 (1904).

³ Barrowcliff and Power, *ibid.* 91, 557-578 (1907).

Adams ⁴ have brought the subject to general attention, and therefore the data on hand may be of interest.

From the work of Barrowcliff and Power ² one of the courses of oxidation of chaulmoogric acid (I) appears clear: A dihydroxy-dihydrochaulmoogric acid (II) is formed, then a hydroxyketo-dihydrochaulmoogric acid (III), and eventually a tricarboxylic acid (IV). There is some doubt, however, concerning the origin of a keto-dicarboxylic acid (V), which is found among the products of oxidation in acetic acid solution.



The keto-dicarboxylic acid was explained by Barrowcliff and Power by the assumption of a second, tautomeric form of chaulmoogric acid in which the (1) and (3) carbon atoms of the ring are connected by a bridging bond. This explanation is so well reviewed and the theoretical objections to it are so well pointed out by Shriner and Adams ⁵ that the details need not be repeated here. The proposed tautomerism is without known parallel, either as to its causes or its characteristics, and therefore cannot be considered a satisfactory explanation of the experimental data.

⁴ Shriner and Adams, this journal, 47, 2727 (1925).

⁵ While congratulating Shriner and Adams on the clear-cut results from the reactions reported by them, we nevertheless note that we have found some support, in preliminary experiments, for Barrowcliff and Power's postulate that two dihydrochaulmoogric acids are produced by their method. That is although dihydrochaulmoogric acid as produced catalytically is a single, practically pure substance, their method, through the hydrogen bromide addition product, does not give a pure product, even after complete reduction. As it is understood that another laboratory is investigating the field, work on this point has not been continued. In any event, the abnormal addition or elimination of hydrobromic acid is so common that it can not be considered as evidence of tautomerism.

In their investigation of the question, Shriner and Adams obtained results which point definitely to formula (I) for chaulmoogric acid. Their results invalidate that portion of Barrowcliff and Power's evidence for tautomerism which dealt with the addition of hydrobromic acid. As for the keto-dicarboxylic acid (V), they propose the explanation that it is formed by the further oxidation of the dihydroxy-acid (II). This explanation appears very reasonable in view of known analogous cases. A test experiment which suggests itself, however, is the oxidation of the pure dihydroxy-acid. We have been unable to produce the keto-dicarboxylic acid in this manner.

FIRST-STAGE OXIDATION PRODUCTS

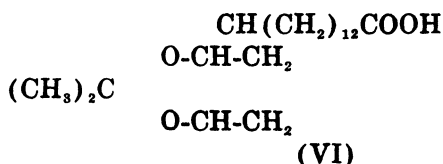
Barrowcliff and Power obtained dihydroxy-dihydrochaulmoogric acids, that is, glycols of chaulmoogric acid, by oxidation of the latter with somewhat more than twice the theoretical quantity of permanganate in alkaline solution. The yields are not stated. In spite of improvements in the methods of separation and experimental variation of the conditions of oxidation, the writer has been unable to obtain more than 50% of the theoretical yield.

The two glycols were isolated by several methods. It was found that the isomer—more nearly corresponding to Barrowcliff and Power's alpha-dihydroxy-dihydrochaulmoogric acid, whether prepared by their method or otherwise—had a lower rotation $[(\alpha)_D, +4.9^\circ]$ and a slightly higher melting-point (106°) than reported by these investigators $[(\alpha)_D, +11.6 \text{ m. p. } 105^\circ]$. This discrepancy is perhaps explainable by the observation that their method of separation of the isomers—namely, crystallization of the methyl esters—yields a product contaminated with a strongly retarding substance (orthoacetone ether, see below) in case methyl alcohol used contains acetone.

As for the other isomer, the fractional crystallization of the methyl esters (see experimental part; alpha-methyl ester) concentrates this in the most soluble portions, which were discarded by Barrowcliff and Power. The acid obtainable from these portions, and to which the designation beta dihydroxy-dihydrochaulmoogric acid is here applied, melts at 85° and shows $(\alpha)_D, -38.2$. The acid described by the previous investigators, m. p. $92-93^\circ$, $(\alpha)_D, -14.2^\circ$, was found to be a mixture. Although this mixture has a nearly equimolecular composition, the two acids form a continuous series of mixed crystals from this composition to that of the pure alpha-isomer, and no evidence of a pseudoracemic compound was found.

It is to be understood that the terms "alpha" and "beta" are used here simply as arbitrary designations, and have no structural significance.

The glycols showed annoyingly inconsistent behavior in acetone solution. It was eventually found that in the presence of traces of mineral acid, they react readily with acetone, by giving products which are undoubtedly acetals, or more specifically, cyclic ethers of orthoacetone (VI). The fact that the



acetal from the beta-glycol hydrolyzes more readily than that from the alpha-glycol was found to be useful in the separation of the isomers. Furthermore, the acetals of the methyl-esters can be separated by fractional crystallization much more sharply than can the esters themselves.

According to the suggestion of Burrowcliff and Power, one glycol (II) should give the tricarboxylic acid (IV) on oxidation, and the other (supposedly a 1, 3 glycol) should give the keto-dicarboxylic acid (V). According to Shriner and Adams' explanation, the glycols should be stereoisomers (II), and each should give both the tricarboxylic acid (IV) and the keto-dicarboxylic acid (V) on oxidation. Experiment shows that they both yield practically pure tricarboxylic acid (IV). They may, therefore, be regarded as stereoisomers, both having the formula (II); but the keto-dicarboxylic acid (V) must be considered as arising from some other first-stage intermediate product as yet undiscovered.

Of the four stereoisomeric glycols conceivably derivable from (*dextro*-) chaulmoogric acid, we are led by the general behavior of permanganate to expect in this case only two; that is, those in which the hydroxyl groups have the *cis*-relation to each other. The ready formation of acetals by the glycols on hand confirms their *cis*-configuration^{*} and incidentally the conclusion that the hydroxyl groups are on adjacent carbon atoms.

The search for a first-stage oxidation product, which could be oxidized into the keto-dicarboxylic acid (V), was instituted

^{*} Cf. van Loon, who made the orthoacetone ether of cyclopentane- (1, 2) *cis*-diol, *Diss. Techn., Hoogeschool Delft*, 1919, 81 pp., *CH. Abst.* 17, 1956 (1923), also Hermans, *Berichte*, 57 B, 824-7 (1924).

among the by-products accompanying the glycols. These appear to be condensation products, however, and none of the fractions obtained from the oxidation of chaulmoogric acid in alkaline solution gave the keto-dicarboxylic acid on further oxidation. Oxidation in acetic acid solution offers a more promising field, but so far the required intermediate has not been isolated. While awaiting further evidence, the writer is inclined to the supposition that in the series of reactions in question, the tertiary hydrogen atom is attacked before the double bond.

FURTHER OXIDATION

The methyl-ester of a hydroxyketo-dihydrochaulmoogric acid (III), which gave on hydrolysis a dicarboxylic lactone, was reported by Barrowcliff and Power. Shriner and Adams and also the present writer have been unable to duplicate the conditions necessary for the isolation of the methyl-ester, but a substance believed to be the lactone was found to occur as a by-product of the glycols when the reaction mixture was heated before removal of the manganese-dioxide.

In the isolation of Power's tricarboxylic acid (IV), the distillation of the methyl-esters was not found to be advantageous. The by-products can be removed by fractional crystallization of the methylesters, but more efficiently by crystallization of the glycols after the first stage of the oxidation. Further oxidation of the crystallized mixed glycols yields nearly pure tricarboxylic acid.

The isolation of the keto-dicarboxylic acid (V) is facilitated by its low solubility in ether. Approximately 11 per cent of the theoretical yield were obtained from chaulmoogric acid.

EXPERIMENTAL PROCEDURE

The chaulmoogric acid used was obtained from the oil of *Hydnocarpus alcalæ*, a Philippine seed. The fatty acids from this oil were recrystallized several times from alcohol, and the yield was practically pure chaulmoogric acid [m. p. 67–68°, (α)_D, 61°].

Preparation of the mixed dihydroxy-acids.—Seventy-five grams of potassium permanganate and 25 grams of potassium hydroxide were dissolved in 4 liters of water and about 2 kilograms of cracked ice added. A cold solution of 100 grams chaulmoogric acid and 25 grams of potassium hydroxide in 2 liters of water was then added with rapid stirring. Sufficient ice

¹ cf. Perkins and Cruz, *Phil. Jr. Ci.* 23, 545, 562 (1923).

was present to keep the temperature about 2° C. The addition required about one minute.

Within a few minutes, the oxidation was complete and the manganese-dioxide began to form a gel. The whole was warmed to about 30° C and filtered through folded filters. The sludge was washed twice with water, which was filtered off by suction.

Although filtration is facilitated by warming, it was found that excessive heating at this point destroys the dihydroxy-acids, with the formation of non-crystalline substances and a crystalline substance (m. p. 94°) hardly soluble in ether. The latter appears to be identical with the lactone (m. p. 90°) obtained by Barrowcliff and Power from the methyl-ester of hydroxyketo-dihydrochaulmoogric acid.

The combined filtrates were treated with dilute hydrochloric acid, which precipitated the dihydroxy-acids as a voluminous curd. The curd was separated and warmed with 1 liter of benzene. After removal of most of the water in a separatory funnel, the solution was cooled to about 10° C. over night and filtered with suction. The crystals were recrystallized three times at about 10° C. from a mixture of 100 cubic centimeters benzene and 50 cubic centimeters ether. Evaporation of the benzene-ether filtrates gave a slight further yield of crystalline product, which was purified and added to the main portion.

The crystalline product from the foregoing procedure was 57 grams, (α)_D, -21°. Of this quantity about one-third is estimated to be α -dihydroxy-dihydrochaulmoogric acid and two-thirds the β isomer.

In the filtrates, about 37 grams of material were found variously divided, in different experiments, between the benzene filtrate and the benzene-ether filtrates. Petroleum ether extracted from the benzene-soluble portion about 1 gram of crystalline material evidently containing unchanged chaulmoogric acid. The remainder of the benzene-soluble fraction was indistinguishable from the portions recovered from the benzene-ether filtrates. They were light-brown, syrupy, gradually, becoming pasty at 25° C., and were evidently mixtures. Repeated attempts to isolate substances from these residues proved unsuccessful (except for the lactone previously mentioned, and small amounts of degradation products of low molecular weight).

A number of variations of the oxidation procedure were tried. Addition of the soap solution to the oxidizing mixture, as described above, gave as good results as any other method could.

It is comparatively convenient and rapid, and has the advantage that the mixture can be kept in nonviscous condition until the reaction is practically complete. Most of the experiments, however, were done in the more usual manner, by adding the oxidizing agent to soap solution. Good results were obtained as follows:

One kilogram of chaulmoogric acid was melted in 5 liters of hot water and a solution of 300 grams of potassium hydroxide stirred in. After cooling somewhat, the solution was diluted with 25 liters of water, and further cooled to 10° C. by direct addition of ice. An ice-cold solution of 500 grams of potassium permanganate in 30 liters of water was added gradually during 2 hours, the soap solution being meanwhile violently agitated by a mechanical stirrer, and kept at $9-11^{\circ}$ C. by the addition of ice.

This proportion (one-half part by weight) of permanganate, while one-third more than the theoretical, was found to be the minimum advisable. When less permanganate was used, considerable chaulmoogric acid could be recovered unchanged. When more permanganate was used, the dihydroxy-acids proved surprisingly resistant to it at low temperatures. Even with four times the theoretical quantity of permanganate considerable quantities of dihydroxy-acids were found in the reaction product.

The concentration of alkali affected the results somewhat. In nearly neutral solution (100 grams chaulmoogric acid, 20 grams potassium hydroxide, 50 grams permanganate, 8 liters water), the oxidation proceeded very rapidly, leaving about 16 grams of the chaulmoogric acid unoxidized. Only 17 grams of hydroxy acids $[(\alpha)_D, -20^{\circ}]$ were obtained in this case. A similar mixture with three times as much permanganate gave traces of an acid identified with the keto-dicarboxylic acid produced by oxidation in acetic-acid solution.

An excess of alkali tends to slow down the reaction and to increase the yield of dihydroxy-acids. Too much alkali, however, prevents the oxidation of all the chaulmoogric acid, and interferes with filtration by causing the manganase-dioxide to remain gelatinous. The relative yield of alpha-acid is considerably less in very strongly alkaline solutions. A strongly alkaline reacting mixture (100 grams chaulmoogric acid, 200 grams potassium hydroxide, 50 grams potassium permanganate, 6 liters water) gave about 37 grams of unchanged chaulmoogric acid, and 27 grams if mixed dihydroxy-acids, $(\alpha)_D, -28^{\circ}$.

Isolation of Beta-dihydroxy-dihydrochaulmoogric acid.—The reaction product from 100 grams of chaulmoogric acid (either purified as described above, or simply crystallized once from 100 cubic centimeters benzene and 50 cubic centimeters ether) was dissolved in 100 cubic centimeters of boiling acetone. A few drops of concentrated hydrochloric acid were added. Immediate and vigorous spontaneous boiling was noted. The solution was allowed to cool a few minutes and 200 cubic centimeters of petroleum-ether then added. The mixture was washed in a separatory funnel, three times with 500 cubic centimeters portions of water. The main part of the product remained in the upper clear petroleum-ether solution. Between this and the aqueous layer, a resinous or syrupy layer formed, the amount of which depended on the degree of previous purification of the sample on hand. This middle layer was again treated with acetone, hydrochloric acid, and petroleum-ether to remove any unchanged dihydroxy-acid.

The combined clear petroleum-ether solutions were shaken with 200 cubic centimeters of concentrated hydrochloric acid in a 2-liter Erlemmeyer flask. Sufficient beta-dihydroxy-dihydrochaulmoogric acid was precipitated within a few minutes to stabilize an emulsion of the whole. One hundred cubic centimeters of water were then added, and the emulsion was shaken occasionally during 48 hours.

One liter of water and 100 cubic centimeters of benzene were added. The crystalline product was filtered off with suction and washed with several liters of water. It was recrystallized from a mixture of 100 cubic centimeters benzene with 30 cubic centimeters of ether and again washed with water. The yield was about 20 grams, m. p. 77° , (α)_D, -35° .

The filtrates from the last two filtrations still contained about half of the beta-acid and practically all of the alpha-acid, both—for the most part—as orthoacetone ethers.

After recovery of the alpha-isomer in the form of its methyl-ester (*v. i.*), a further yield of beta-acid was obtained as follows: The alcoholic filtrates from the alpha-isomer were treated with a slight excess of sodium-hydroxide solution and warmed until a sample gave no turbidity when diluted with water. Water and dilute hydrochloric acid were added and the product extracted with ether. The ether-extract was treated with acetone, hydrochloric acid, and petroleum-ether as described above, except that half quantities were used. For the hydrolysis, 200 cubic centimeters of concentrated hydrochloric acid were used, 24 hours

being sufficient. The subsequent purification was performed as for the first crop. The yield was 11 grams, m. p. 77° , (α)_D, -33° .

The product of the above-described process is nearly pure beta-dihydroxy-dihydrochaulmoogric acid, with a molecule of water of crystallization. Further purification was affected by crystallization from ethyl-acetate and then from chloroform, after which the melting-point, 78° , was unchanged by further crystallization. Although the solvents used contained no more than traces of water, the product (see below, hydrate crystals), dried in air at 40° C., was found to retain the molecule of water of crystallization.

Anal. 1.9506 g. (hydrate crystals) powdered and dried to constant weight in vacuum desiccator. Loss 0.1077 grams. Calc. for $C_{18}H_{34}O_4 + H_2O$: 5.42 per cent. Found: 5.52 per cent.

Subs. (anhydrous), 0.1404: CO_2 , 0.3558; H_2O , 0.1394. Calc. for $C_{18}H_{34}O_4$; C, 68.7; H, 10.9. Found: C 69.1; H 11.1.

Subs., 0.5083 (anhydrous): 16.17 cc. of 0.1 N NaOH. Calc. for $C_{18}H_{34}O_4$: equiv. wt. 314.3. Found: 314.3.

5.00 g. (hydrate crystals) in 50 cc. alcohol (U. S. P.) solution, 2 dm. tube, gave α_D , -7.22° , whence (α)_D²⁰, -36.1° for the hydrated form, and -38.2° for the anhydrous acid.

The hydrate crystals (colorless blades or needles) were found to be readily soluble in alcohol, less so in ether, chloroform, ethyl-acetate acetone, and benzene, practically insoluble in water, petroleum ether, or cold benzene. Recrystallization did not usually remove the molecule of firmly retained water. Dehydration was effected, however, by boiling the xylene solution, by heating the crystals near their melting-point, or by powdering and leaving two weeks in a vacuum desiccator.

The anhydrous acid was found to be somewhat more soluble than the hydrate and crystallized in much smaller blades. Its solution, if exposed to the air, absorbed moisture, and deposited crystals of the hydrate. The anhydrous acid melts at 85° .

The solubilities of both forms are so close to those of the alpha-isomer that separation of the isomers by crystallization alone is unsatisfactory, but a small amount of betadihydroxy-acid, in hydrate form, can be obtained pure by long continued fractional crystallization of the crude reaction product from chloroform.

Orthoacetone Ether.—Beta-dihydroxy-dihydrochaulmoogric acid was dissolved in acetone, and a very little hydrochloric

acid was added. The ortho-acetone ether crystallized on cooling. The same product resulted when the original crude mixture of dihydroxyacids (containing traces of mineral acid) was crystallized several times from acetone, the alpha-isomer remaining in solution. The melting-point was 60° .

Anal. Subs., 0.8134: 23.04 cc. of 0.1 N NaOH. Calc. for $C_{18}H_{22}O_4 \cdot C_8H_6$: equiv. wt. 354.3. Found: 353.1.

5.00 g. in 50 cc. alcohol solution, 2 dm. tube, gave α_D , -2.10° , whence $(\alpha)_D^{20}$, -10.5° .

This substance is very soluble in most organic solvents, including benzene. It crystallizes in colorless leaflets from cold (about $10^{\circ}\text{C}.$) acetone, alcohol, or ligroin, or from petroleum-ether in which it is somewhat less soluble. Its solubility in petroleum-ether affords a sharp separation from most of the oxidation products of chaulmoogric acid.

The other is quite stable toward alkali, but is hydrolyzed readily by warming with mineral acid, especially when dissolved in alcohol. One part dissolved in petroleum-ether and emulsified with ten parts of concentrated hydrochloric acid is hydrolyzed almost completely within 24 hours at room temperature.

Methyl-ester.—Twenty grams of pure beta-dihydroxy-dihydrochaulmoogric acid were treated over night with 100 cubic centimeters acetone-free methyl-alcohol and 5 cubic centimeters sulphuric acid. The ester was crystallized from alcohol and ethyl-acetate, in both of which it is very soluble. It separated in colorless masses of a micro-crystalline appearance and melted at 55° .

Anal. Subs., 0.5151: 7.96 cc. of 0.2 N KOH. Calc. for $C_{18}H_{20}O_4 \cdot CH_3$: equiv. wt., 328. Found: 324.

2.50 g. in 25 cc. $CHCl_3$ solution, 2 dm. tube, gave α_D , -6.86° , whence $(\alpha)_D^{20}$, -34.3° .

This ester is very soluble in most organic solvents and moderately soluble in petroleum-ether and ligroin.

Methyl-ester orthoacetone-ether—The foregoing ester was treated with acetone and a small amount of hydrochloric acid. The product was extracted with ether and washed with water. It was found to be very soluble in the ordinary organic solvents, but crystallized well from a small amount of cold petroleum-ether. It melts at 34.5° .

Anal. Subs. 0.8060: 10.86 cc. of 0.2 N KOH. Calc. for $C_{18}H_{21}O_4 \cdot CH_3 \cdot C_8H_6$: equiv. wt., 368. Found: 370.

5.00 g. in 25 cc. CHCl_3 solution, 2 dm. tube, gave α_D , -3.47° , whence $(\alpha)_D^{20}$, -8.7° .

Alpha-dihydroxy-dihydrochaulmoogric acid.—This acid was obtained from its methyl-ester and from its methyl-ester orthoacetone-ether. Of these substances, the latter compound is the more easily separated from the corresponding beta-isomer.

Ten grams of the methyl-ester orthoacetone-ether were boiled half an hour with 100 cubic centimeters of alcohol and 50 cubic centimeters of concentrated hydrochloric acid. The solution was then cooled and diluted with water. The precipitated ester was saponified in alcoholic alkali. The resulting acid was precipitated in crystalline condition by the addition of dilute hydrochloric acid. Small amounts of orthoacetone-ether and resinous by-products were removed by crystallization from a mixture of benzene and ether or from chloroform.

Further crystallization from chloroform or ethyl-acetate did not change the melting-point, 106° . The solubilities of alpha-dihydroxy-dihydrochaulmoogric acid were found to be similar to those of the beta-isomer. It crystallizes in blades, without water of crystallization.

Anal. Subs., 0.8147: 26.01 cc. of 0.1 N NaOH. Calc. for $\text{C}_{18}\text{H}_{34}\text{O}_4$: equiv. wt., 314.3. Found: 313.2.

Subs. 0.1559: CO_2 , 0.3926; H_2O , 0.1549. Calc. for $\text{C}_{18}\text{H}_{34}\text{O}_4$: C, 68.7; H, 10.9. Found C, 68.7; H, 11.1.

5.00 g. in 50 cc. alcohol solution, 2 dm. tube, gave α_D , -0.97° , whence $(\alpha)_D^{20}$, -4.9° .

Orthoacetone-ether.—This substance could have been made in the manner described for the corresponding beta-isomer, but was more conveniently prepared by warming the methyl-ester orthoacetone-ether with alcoholic alkali. If the mixture is kept cold during the subsequent acidification, very little hydrolysis of the ether linkage occurs. The product was dissolved in five parts of benzene and the solution was cooled (about 10°C .) and filtered. The residue from evaporation of the filtrate was crystallized twice from alcohol, then showing a melting-point of 64° , but was unchanged by further crystallization from acetone.

Anal. Subs., 1.0142: 28.62 cc. of 0.1 N NaOH. Calc. for $\text{C}_{18}\text{H}_{32}\text{O}_4 \cdot \text{C}_3\text{H}_8$: equiv. wt. 384.3. Found: 354.4.

10 g. in 50 cc. CHCl_3 solution, 2 dm. tube, gave α_D , $+11.45^\circ$, whence $(\alpha)_D^{20}$, $+28.6^\circ$.

This ether is very similar to the corresponding derivative of the beta-dihydroxy-acid, but is hydrolyzed less readily. Cold concentrated hydrochloric acid attacks it in petroleum-ether solution only very slowly.

Methyl-ester.—The mixed dihydroxy-acids and by-products resulting from the oxidation of 1 kilogram of chaulmoogric acid were crystallized from benzene. The crystals, drained but not dried, were dissolved in 1 liter of acetone-free methyl-alcohol to which 20 cubic centimeters of sulphuric acid had been added, and the solution warmed for one hour. The mixed esters were extracted with ether and washed with water and dilute potassium hydroxide. A small amount of acid extracted by the alkali was esterified and added again to the main portion of ester.

The washed and dried methyl-ester (747 g., (α)_D, —17.7°) was then fractionally crystallized from ethyl-alcohol. At the beginning 2 liters of 55 per cent alcohol were used, one fraction of crystals being obtained at room temperature and a second in the refrigerator. Further fractions were obtained after evaporation of some of the solvent. Each fraction was recrystallized several times, the first from successive portions of fresh alcohol of gradually increasing strength, and each of the others from the filtrates of the fraction above it in the series, according to the usual system for fractional crystallization. After 64 crystallizations, the fractions were found to have the following weights, freezing-points, and specific rotatory powers; 1, 25 g., 77.2° C., +4.2°; 2, 24 g., 76.6° C., +3.0°; 3, 28 g., 71.7° C., —5.7°; 4, 98 g., 63° C., —18°; 5, 169 g., 55° C., —25°; 6, 116 g., 44° C., —21°; 7, 74 g., 39 C., —18°; 8, 208 g., 37° C., —14°.

The freezing-points were determined with the thermometer bulb immersed in the ester. The specific rotatory powers were determined in alcoholic solution.

Fractions 6, 7, and 8 gave on hydrolysis beta-dihydro-chaulmoogric acid, nearly free from the isomeric acid, but contaminated with large amounts of non-crystalline by-products which were easily removed by crystallization from benzene and washing with ether. The intermediate fractions gave both alpha- and beta-isomer when subjected to the sharper processes of separation already described.

Fraction 1 had been crystallized thirteen times. During the last three crystallizations, its freezing-point rose only 0.5° C. It was given a final crystallization from 3 volumes of pure methyl-alcohol. Both the crystals and the evaporated filtrate

showed a freezing-point of 77.2° C. From this fact, and because the acid obtained by hydrolysis proved identical with that resulting from entirely different methods of purification, this ester was considered to be pure, although its rotation was lower than that recorded in the literature. Its melting-point, by the ordinary capillary-tube method, was 79° .

Anal. Subs., 0.5286: 8.23 cc. of 0.2 N KOH. Calc. for $C_{18}H_{31}O_4$. CH_3 : equiv. wt. 328. Found: 323.

5 g. in 25 cc. $CHCl_3$ solution, 2 dm. tube, gave $\alpha_D +1.63^{\circ}$ whence $(\alpha)_D^{20} +4.1^{\circ}$.

This ester is very soluble in most organic solvents, but can readily be crystallized from cold ligroin, methyl- or ethyl-alcohol. In the last two solvents, it is less soluble than the beta-methyl-ester, but separation based on this fact is tedious. In contrast to the beta-ester, it crystallizes well in colorless leaflets.

Methyl ester orthoacetone ether.—In the section describing the isolation of beta-dihydroxy-dihydrochaulmoogric acid, two filtrates were mentioned which contained the alpha isomer. These were evaporated and the combined residues warmed 1 hour in a mixture of 50 cubic centimeters methyl-alcohol, 10 cubic centimeters acetone, and 2 cubic centimeters sulphuric acid. The ester was extracted with ether, washed with water, and crystallized twice from 100 cubic centimeters of alcohol (10° C.). The yield was 16 grams m. p. 68° , $(\alpha)_D +26.5^{\circ}$. Further crystallization raised the melting-point to 70° .

Anal. Subs., 0.5786: 7.88 cc. of 0.2 N KOH. Calc. for $C_{18}H_{31}O_4$. CH_3 . C_3H_6 : equiv. wt., 368. Found: 367.

10 g. in 50 cc. $CHCl_3$ solution, 2 dm. tube, gave $\alpha_D +11.03^{\circ}$, whence $(\alpha)_D^{20} +27.6^{\circ}$.

This ester-ether is very similar to the ester, but is in general less soluble. It crystallizes well, usually in colorless blades; a distinct form of short thick prisms has also been observed. It can be separated rather sharply from the corresponding beta-isomer by crystallization from alcohol.

Oxidation of chaulmoogric acid in acetic acid solution.—Twenty grams of chaulmoogric acid were dissolved in 300 cubic centimeters of warm 90 per cent acetic acid in a 600 cubic centimeters beaker, which was then placed in ice-water. The solution was violently agitated by a mechanical stirrer and its temperature was maintained at $20-25^{\circ}$ C. during the addition of 50 grams of powdered potassium permanganate, which required about half an hour. Five minutes after all had been added, the

stirring was discontinued and the solution gradually decanted into a cylinder containing 30 cubic centimeters, of water through which an excess of sulphur-dioxide was constantly bubbling. The sediment of excess potassium permanganate was not transferred to the cylinder, but was washed with a little acetic acid. The precipitated manganous salts were filtered off with suction and washed with acetic acid. The filtrate was reduced by rapid distillation to a volume of 100 cubic centimeters, bumping being minimized by pieces of porous porcelain. It was then transferred (still hot) to a separatory funnel and shaken with 100 cubic centimeters each of hydrochloric acid and benzene. The benzene layer was washed with 50 cubic centimeters of warm dilute hydrochloric acid and then twice with 50 cubic centimeters of warm water. The aqueous layer was again extracted with 50 cubic centimeters of warm benzene, which was then washed with the same solutions as the first extract. The combined benzene extracts were evaporated until the odor of benzene had disappeared, and the residue (still containing a little acetic acid was dissolved in 100 cubic centimeters of ether. One hundred cubic centimeters of water were added, and the whole allowed to stand at about 10° C. over night. The keto-dicarboxylic acid ($C_{17}H_{30}O_6$, formula V), prepared in essentially the same way but isolated in a different manner by Barrowcliff and Power, crystallized out and was filtered off by suction. The yield, in several experiments, varied from 2.7 to 3.4 grams. After recrystallizations by dissolving in acetic acid and adding ether and water, this substance melted at 126°, with a yield 1.8–2.5 grams, m. p. of methyl-ester, 67° (B. and P. 128°, methyl-ester 66°).

Several methods for the separation of the tricarboxylic acid ($C_{18}H_{32}O_6$, formula IV) were tried, of which the following was the least unsatisfactory: The ether filtrate from the keto-dicarboxylic acid was evaporated, and the residue (16.8 grams) dissolved in 50 cubic centimeters of warm alcohol. Four-tenths of the solution, with the remainder added, made up the whole to 100 cubic centimeters. The solution was left 20 hours at about 10° C. for the menopotassium salt to precipitate. The salt was filtered off (15.1 grams) and warmed with 5 cubic centimeters of sulphuric acid and 50 cubic centimeters methyl-alcohol for one hour. The ester was extracted with ether, washed with water and then with dilute alkali. A small amount of acid extracted by the alkali was esterified and added. The combined ester (14.4) grams was dissolved in 200 cubic

centimeters of petroleum-ether and the solution cleared with decolorizing carbon. The solution was evaporated to 30 cubic centimeters and cooled on ice. The crystals were crystallized 4 more times from petroleum-ether, then twice from 50 cubic centimeters of 90 per cent methyl-alcohol, and twice again from petroleum-ether. Second crops from the filtrates were treated in a similar manner, seven fractions being eventually obtained, of amounts and freezing-points as follows: 1, 3.2 g., 35.6°; 2, 1.85 g., 35.1°; 3, 1.15 g., 33.7°; 4, 0.5 g., 29°; 5, 0.85 g., 27°; 6, 0.45 g., 26°; 7, 2.9 g. pasty at 0°.

Fractions 1 to 6 evidently consisted essentially of a single ester, in varying degrees of purity. By working in a similar manner with larger quantities, a sample of freezing-point, 38.0°, was obtained (m. p. by capillary-tube method, 39.5°). This substance was found to be identical with the methyl-ester (m. p. given as 38.5°) of Barrowcliff and Powers' tricarboxylic acid, a sample of which was isolated in the manner described by them.

Fraction 7 showed characteristics similar to those of the non-crystalline by-products encountered in the first stage of the oxidation, and evidently was produced from them, since the crystalline products of the first stage give nearly pure tricarboxylic acid (*v. i.*).

OXIDATION OF THE DIHYDROXY-DIHYDROCHAULMOOGRIC ACIDS IN ACETIC ACID

Solution.—Twenty-two and four-tenths grams of beta-dihydroxydihydrochaulmoogric acid were oxidized with 42.5 grams of permanganate in exactly the same manner as described in the preceding section. The ether solution, prepared as before, gave no trace of keto-dicarboxylic acid even after seeding and long standing on ice.

The product was esterified without purification through the potassium salt or in any other way beyond the usual washing of the ester with water and alkali. The crude ester showed a freezing-point of 34.9° C. After a single crystallization from 100 cubic centimeters of petroleum-ether, the product (17.7 grams) had a freezing-point of 36.5° C., 0.9° C. higher than the tediously purified product, 3.2 grams., of the preceding section.

Alpha-dihydroxy-dihydrochaulmoogric acid was oxidized in the same way with the same results. No trace of keto-dicarboxylic acid could be found, and the crude methyl-ester had a freezing-point of 35.1°, rising to 36.2° on a single crystallization.

The mixed dihydroxy-acids, obtained by purifying the original reaction product with benzene and ether and described in the first section of the experimental part, were oxidized in the same way. No keto-dicarboxylic acid was found, and the crude methyl-ester had a freezing-point of 33° .

The fractions of by-products of the first-stage oxidation soluble in benzene and soluble in benzene-ether were separately oxidized. Very little permanganate was consumed, and no keto-dicarboxylic acid was found. The methyl-esters were pasty at 10° C.

The small portion of first-stage by-products soluble in petroleum-ether reduced permanganate in acetic-acid solution, and gave a little keto-dicarboxylic acid. This fact was accounted for, however, by its estimated content of unchanged chaulmoogric acid.

SUMMARY

1. In the course of research aiming to improve the material for the treatment of leprosy, the first-stage products of the oxidation of chaulmoogric acid by permanganate in alkaline solution have been studied.

2. Alpha-dihydroxy-dihydrochaulmoogric acid [(alpha) $\frac{80}{D'}$, -4.9° , m. p. 106°] has been obtained in condition believed to be purer than that of samples previously described by other investigators.

3. The Beta-dihydroxy-dihydrochaulmoogric acid previously described has been found to be a mixture containing the alpha-isomer as well as another [(alpha) $\frac{D'}{80}$, -38.2° , m. p. 85°], to which the designation of Beta-dihydroxy-dihydrochaulmoogric acid is here applied.

4. These two acids are stereoisomers, both giving the same tricarboxylic acid on oxidation. They are presumably omega-2, 3-dihydroxycyclopentano-tridecylic acid. In each stereoisomer, the hydroxyl groups have a *cis*-relation to each other.

5. Ortoacetone-ethers of the dihydroxy-acids have been prepared, and the properties of these have been found useful in the separation of the isomers.

6. *N*-pentadecano-gamma-keto-alpha-dicarboxylic acid, a product of the oxidation of chaulmoogric acid in acetic-acid solution, was not produced when the dihydroxy-acids were oxidized in the same manner.

7. No first-stage oxidation product leading to the keto-dicarboxylic acid was isolated, and the origin of the latter remains an interesting question.

BLOOD CHEMISTRY STUDIES IN LEPROSY¹

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[Abstract for Publication in the Philippine Health Service Bulletin]

1. The methods and results of the chemical analysis of blood in 100 lepers and 17 presumably normal individuals are reported. The lepers were classified in the following groups: those without complications, those with miscellaneous complications, those with tuberculosis, those with lepra reaction, and those with nephritis.

2. The blood values taken as normal were as follows: Non-protein N, 23-33; urea N, 7-19; uric acid, 2.6-4.4 milligrams; preformed creatinine, 1-1.5 milligrams; sugar, 80-160 milligrams; chlorides, calculated as sodium chloride, 0.42-0.49 per cent. All figures were calculated per 100 cubic centimeters of whole blood.

3. The results obtained from normal individuals have been compared with those obtained by other investigational workers.

4. A study of the results collected brings out the following facts:

(a) No regular correspondence can be traced between the blood findings and the duration, extent, or type of leprosy, or the antileprosy treatment.

(b) The average values for non-protein nitrogen, uric acid, creatinine, and sugar for all of the leper groups were somewhat high.

(c) The average values for non-protein nitrogen and urea nitrogen are markedly high not only in the group of lepers having nephritis, but also in the group with lepra reaction.

(d) The group averages for urea nitrogen are normal except as above stated, and those for chloride are normal throughout.

¹ Non-protein nitrogenous substances, sugar and chloride

MEMORANDUM

To: *The Director of Health.*

Subject: *Inspection of the Northern Luzon provinces.*

1. As directed by Special Order No. 3, Par. 23, dated March 17, 1926, the undersigned performed an inspection of the northern Luzon provinces, a summary of which is respectfully submitted hereon for your information:

(a) Left Manila on March 18, 1926, at 9 a. m. with the district health officer of Nueva Ecija who came to the city to get the exhibits of the Philippine Health Service for the Carnival to be held in his district.

(b) *Nueva Ecija.*—On the way to Cabanatuan, inspected the municipalities of San Antonio, Jaen, San Isidro, Cabiao, and Gapan. On the 19th, San Fernando, Peñaranda, Santa Rosa, and Aliaga. On the 20th, Licab, Zaragoza, Talavera, Quezon, Santo Domingo, Kuyapo, and Bongabon. On the 21st, was at Cabanatuan and inspected the public market, restaurants, tiendas, and other public places. Gave instructions to the health officers concerned re measures to be taken in connection with the celebration of the Carnival. Left on 22nd for Nueva Vizcaya at 7 a. m.

Findings and action taken.—Health condition of the whole province "excellent," excepting a few cases of broncho-pneumonia and bronchitis due to influenza. Ninety per cent of the municipalities inspected and several barrios found "very poor" as regards sanitary condition—the lack of proper cleaning and failure to strictly enforce the sanitary ordinances as shown by the presence of loose pigs and very few number of Antipolo system of sewage disposal having been observed by the undersigned. Five assistant sanitary inspectors were recommended for temporary assignments in connection with the improvement of sanitary condition reported. Offices of the sanitary divisions and sanitary inspectors were properly kept and tidy. More and careful supervision by the district health officer over his personnel was urged.

(c) *Nueva Vizcaya.*—Arrived at Bayombong, after having inspected the municipalities of Muñoz and San Jose on the way. Inspected the municipalities of Aritao, Bambang, Dupax, Solano, Bagabag, and the township of Monguia where prisoners on parole are kept.

Findings and action taken.—The death-rate at Bambang is high due to cases of influenza. However, the health condition throughout the province in general is "very well." In the poblacion of Bayombong about 50 per cent of the inhabitants count with a surface well provided with a pump which furnishes them with safe drinking water. This well was constructed by Ifugaos who dug a hole of about 9 to 10 feet deep and installed a pipe and a small pump, the whole work costing about ₱25. Antipolo system of sewage disposal is installed in most houses. Health service personnel

efficiently trained and disciplined. Stayed 3 days in this district, leaving for Isabela on March 25 at 7 a. m. on account of the wire received from the Director of Health directing an investigation be made against Doctor Lualhati of Echagüe, Isabela.

(d) *Isabela*.—Inspected the municipalities of Cabagan, San Pablo, Ilagan, Tumauni, Naguilian, Gamu, Reina Mercedes, Cauayan, Echagüe, Angadanan, and Santiago during the 5 days' stay in this district.

Findings and action taken.—Sanitary condition of the whole district "very poor." Health Service offices disorderly kept and personnel inefficiently trained, apparently, due to lack of a district health officer. The acting district health officer is at the same time the President of the Sanitary Division at Ilagan, Isabela; thus, being unable to supervise as often as necessary the offices and personnel of the entire district. It is, therefore, very necessary that an energetic and efficient district health officer be assigned to this province to control and improve the situation. An assistant sanitary inspector of Gamu was recommended to be fined for failure to wear the service uniform and keep a daily time record (Form No. 48) as were found on March 27 at 11 a. m. At Naguilian, Dr. Leon Sison was investigated by the undersigned, the papers on the matter and the corresponding report having been sent to the Central Office on March 29, 1926. Left Isabela on March 30, at 8 a. m. for Cagayan.

(e) *Cagayan*.—Inspected the municipalities of Tuguegarao, Solana, Alcala, Iguig, Lal-lo, Camalaniugan, Amulung, Aparri, Linao, Ballesteros, Buguey, Abulug, Claveria, Sanchez Mira, Tuau, and Piat. Inspection was also made of the detention camp of lepers at Aparri where 15 of them were found ready for collection.

Findings and action taken.—Health and sanitary condition found "very good." Assistant sanitary inspector Pablo Nicolas was recommended to be fined for failure to wear the service uniform during office hours and not keeping a daily time record of his office hours in the municipality of Tuau as found on March 31, at 9 a. m. At Claveria, met Central Office assistant sanitary inspector Marcos Aglugub and inquired as to what he was doing there. Found that he was a native of the place, having been called due to poor health condition of his father who was found very weak by the undersigned on account of old age. Instructions were given regarding the proper care of the patient. Left for Ilocos Norte on April 5.

(f) *Ilocos Norte*.—Arrived at Bangui on the same date at 2.30 p. m. Inspected every municipality of this district.

Findings and action taken.—This province is one of the cleanest among the northern Luzon provinces. Met every health officer and subordinate employee with the exception of Doctor Bello who was on vacation. Called the attention of Dr. M. Paz of Bacarra for failure to attend a party given in this municipality in honor of the graduating students who are natives of the town, impressing the necessity of the existence of friendly social relations between health service representatives and the public. In Currimao, visited the detention camp that is being constructed for lepers, giving instructions and recommending to the municipal treasurer to rush the construction to enable the early transfer of lepers, as well as to have the lepers ready for the collection trip. In the capital of the province, a small "feria" is being held and instructions were given re the establishment

of a first-aid station and public toilets in the place. I left Ilocos Norte on April 9, at 7 a. m. for Ilocos Sur.

(g) *Ilocos Sur*.—Inspected every municipality of this province with the exception of four of them.

Findings and action taken.—Sanitary found "poor." Health personnel not well disciplined. Five assistant sanitary inspectors were recommended to be fined for failure to keep daily time records and 2 for failure to wear the Service uniform. Dr. H. Dario, President of the Sanitary Division at Candon, was ordered not to have any novel in his office, as a novel was found in his desk entitled, "Flor de un Día." Information furnished by the sanitary inspector in the presence of the same medical officer was that he was not wearing the Service uniform when he came into the office in the morning. Fortunately for him, he was found by the undersigned with uniform at about 1.45 in the afternoon of April 10 when he was called to come to the office by the undersigned. Inspected the detention camp for lepers at Candon and found 17 lepers in good health with the exception of a woman who had an infection of the breast. Ordered the district nurse to attend the case and the President of the Sanitary Division at Candon to make at least a visit daily at the detention camp. On account of the sickness of nurse Abaya of the hospital, it was suggested that district nurse Mendoza be assigned to take her place temporarily but the latter came to the undersigned and requested, crying, that she be not assigned to the hospital complaining that during an operation of a case of tonsilectomy performed in the hospital on April 8 by Doctor Versoza, she forgot to prepare a hæmostatic forceps for which in the presence of several people, Doctor Versoza held her by the neck with both hands. Upon being informed by the undersigned as to the seriousness of her complaint, Doctor Versoza was called and questioned regarding this complaint. Doctor Versoza admitted having held Miss Mendoza's neck with both hands, upon knowing the negligence done by her in not preparing the hæmostatic forceps and dissimulating it, but that he did it jokingly and saying, "All right don't do that any more." Miss Mendoza accepted the apology given by Doctor Versoza, stating that it was true that the latter was smiling when he held her by the neck but that she was ashamed of this action specially in the presence of the public. Doctor Versoza was told not to joke with his subordinates, specially when performing an operation and in the presence of the public, and to exercise more control and patience when dealing with his subordinates. On the 11th, left for Abra.

(h) *Abra*.—Inspected the municipalities of Dolores, Bangui, Lagan-guilan, Tayum, Bucay, Peñarrubia, Pidigan, and San Quintin.

Findings and action taken.—Found the province in good health and sanitary condition. The assistant sanitary inspector at Dolores was recommended to be fined for not keeping a daily time record. As the Office of the district health officer was found disorderly kept, the undersigned had to fix it up personally. Left Abra for Vigan, Ilocos Sur, on April 13.

(j) Arrived at Vigan on the 14th and left the same day for La Union.

La Union.—Every municipality was inspected during three days' stay in the province. An assistant sanitary inspector was recommended to be fined for not keeping a daily time record. The district health officer was instructed to go over the offices and outfits of his personnel as it was found

that several spraying pumps for disinfection were in bad condition. The practice of serving drinking water at the railroad station at Damortis was started and in this connection, the undersigned recommended to inform the Manila Railroad Company that a bigger deposit of water be furnished the third-class passenger car as actually only a deposit containing 2 gallons of water is installed when the car carries daily from 150 to 200 passengers from Manila to Damortis.

(j) In Nueva Ecija, assisted in the burial of Mrs. Teofilo Corpus as representative of Philippine Health Service. In all the provinces, held conferences with the governors and acting governors as well as with the municipal presidents. They were inquired as to whether they have any complaint against the health personnel in their respective provinces and practically all of them spoke very well of the health officers and subordinate personnel, stating their satisfaction at the work undertaken by our representatives, and the help afforded by the Philippine Health Service.

A dinner was given by the provincial governor of Nueva Vizcaya in honor of the undersigned; another by Senator Quirino at Vigan; a lunch by the provincial treasurer of Isabela, and a party by the provincial treasurer of Cagayan.

2. The district health officers concerned in this inspection have been requested to submit a memorandum of the deficiencies found by the undersigned and noted in this report.

(Sgd.) FELIPE ARENAS
District Inspector

APRIL 19, 1926

MISCELLANEOUS

MONTHLY NARRATIVE REPORT APRIL, 1926

ALBAY

Los siguientes datos son el resultado de la Campaña Hookworm que se hizo durante este mes en Camalig: 656 personas examinadas; 563, ó 85 por ciento, padecen de parásitos intestinales; 141, ó 22 por ciento, con Hookworm; 400, ó 61 por ciento, con Ascaris; y 82, ó 13 por ciento, con Trichuris. Cincuenta casos reexaminados y 94 por ciento curados.

MISAMIS

The important work accomplished during this period was the good disposition of lepers segregated in Cagayan and in Plaridel, in order to make that their stay should be the most comfortable within our means. Gifts collected from charitable people of Cagayan were distributed among them as cloths, blankets, cigars, etc.

District nurse Dolalas was ordered to proceed to this office for proper instruction.

CATBALOGAN, SAMAR

Important works of undertaking accomplished.—Answering communications received in the district health office, consolidating the reports from the municipalities and submitted same to the Director of Health and other routine reports and special reports that were made necessary for the last previous months and during the month. The district nurse, who was directed last month for anti-cholera and typhoid vaccination in the Third Sanitary Division, has returned and reported that the sanitary condition thereat is satisfactory. There were 3,912 dwelling houses inspected during the month; 511 indigent persons treated by the sanitary inspectors; 140 written sanitary orders issued, 127 of which have been complied with, and 3 still pending; 22 public lectures were given with a total attendance of 470 persons; 38 new Antipolo closets established; 7,266 persons vaccinated; 4,081 inspections made, 2,530 positive and 1,551 negative; 82 persons were given double injections of mixed cholera typhoid vaccine.

ANTIQUE

The district health officer of Antique left for the Baguio Assembly. Dr. Pablo San Juan, President of Third Sanitary Division, will act as district health officer during the absence of the incumbent.

AGUSAN

The district health officer Dr. Jose Sian and President of Sanitary Division Doctor Pedro are going to attend the Health Officers' Assembly at Baguio.

BULACAN

Intensive anti-cholera inoculation is being performed prior to the rainy season. The usual yearly summer resort at Sibul Springs is popular. The Roman Catholic cemetery at San Miguel was ordered closed by the Director of Health and steps are taken to comply with all the requirements of the cemetery regulations.

LANAO

Chief Sanitary Inspector Pajo returned from an inspection trip in Iligan and Momungan. Dr. Silvino R. Alberto, President of Sanitary Division, Iligan, was directed to attend the Baguio Health Officers' Assembly. Dr. S. E. Yap was assigned to take charge of the office of the district health officer in addition to his regular duties as resident physician of the Lanao Public Hospital during the absence of the incumbent.

NUEVA ECIJA

Healthmobile exhibitions were conducted during the Nueva Ecija Carnival with half of the expenses paid by the Carnival Association.

OCCIDENTAL NEGROS

Vaccination against smallpox, especially among children under one year and those who have never been vaccinated, has been carried out extensively and systematically by the field personnel. No cases of smallpox have been registered and reported. Injection of mixed vaccines, usually of cholera and typhoid mixed, is also given systematically.

SURIGAO

Important works and undertakings: Yaws campaign, Malaria survey, (Mainit, Bad-as, Libas, and Anahaw) supervision of vaccinations of the three Divisions; first, second, and sixth. The municipality of Dapa promised to give an aid of 15 per cent of the health fund.

ZAMBOANGA

Anti-variolic vaccination.—During March, 2,550 vaccinations were performed, 2,193 of which were inspected and 1,472 found positive. No report regarding this activity for the month of April has as yet been received from the different divisions of this district.

Anticholera-antityphoid vaccination.—According to the report of the President of the Third Sanitary Division, 486 injections of this kind were given in his division during the month. No report of this activity for the same month has as yet been received from the other divisions.

School children examination.—During the month, a total of 1,655 school children were examined in the public dispensary of the Zamboanga General Hospital. This activity was conducted by the resident physician of the Zamboanga General Hospital with the assistance of the President, Third Sanitary Division, two district nurses and two assistant sanitary inspectors.

Arrival of the Director of Health and his party at Zamboanga.—The Director and his party arrived at Zamboanga on the steamship *Bustamante* in the morning of April 23 for leper collection trip and left in the afternoon of the same day. Only two lepers were collected from this district.

AMERICAN BOARD OF OTOLARYNGOLOGY

An examination was held by the American Board of Otolaryngology on October 19, 1925, at the Cook County Hospital, Chicago, with the following result:

Passed	120
Failed	23
	<hr/>
Total examined	143
	<hr/>

The next examination will be held in Dallas, Texas, on April 19, 1926. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of April, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR, 1926 ¹

BY NATIONALITIES

Nationality	Population
Americans.....	8,184
Filipinos.....	290,009
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All Others.....	2,186
Total.....	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I, MESEIC:	
1. Tondo.....	79,705
2. San Nicolas.....	28,792
3. Binondo.....	17,398
Total.....	125,895
No. II, SAMPALOC:	
4. Santa Cruz.....	51,565
5. Quiapo.....	15,658
6. San Miguel.....	4,377
7. Sampaloc.....	39,186
Total.....	110,786
No. III, PACO:	
8. Port Area.....	4,754
9. Intramuros.....	14,437
10. Ermita.....	15,931
11. Malate.....	16,259
12. Paco.....	15,830
13. Pandacan.....	5,785
14. Santa Ana.....	6,539
Total.....	79,575
Grand total.....	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, APRIL, 1926**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maximum	Day	Absolute mini- mum	Day	0.50 m.	
							8:00 a. m. mean	2:00 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	759.98	27.9	34.9	3, 5	21.1	1	29.1	29.7
11-20.....	58.64	29.4	36.9	14	23.4	11, 18	30.2	30.8
21-30.....	60.89	29.5	37.1	29	22.3	80	30.6	31.4

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	87.1	25.1	2	62.7	5
11-20.....	69.4	74.6	17	62.7	20
21-30.....	66.1	71.3	24	58.1	29

Date	Prevailing direction	Wind			Atmometer ³ (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maximum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	SE quad	2,230.0	330.0	5	61.4	8.1	5
11-20.....	SW quad	2,487.0	297.5	16	69.5	7.6	14
21-30.....	SE	2,309.0	348.0	24	74.5	8.9	29

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	64 35	8 20	1	0.8	1
11-20.....	84 00	9 25	20	0.0	0
21-30.....	81 50	10 35	22	0.0	0

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory part, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY
OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	6	5	11	42.13
Filipinos.....	504	497	1,001	42.02
Spaniards.....	2	1	3	18.68
Other Europeans.....	0	1	1	10.81
Chinese.....	16	21	37	52.23
All others.....	3	5	8	44.56
Total and average.....	531	530	1,061	40.84

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MEIBIC:							
1. Tondo.....	138	127	265	11	10	21	286
2. San Nicolas.....	30	33	63	4	5	9	72
3. Binondo.....	21	16	37	.....	1	1	38
Total.....	189	176	365	15	16	31	396
No. II, SAMPALOC:							
4. Santa Cruz.....	59	78	137	5	4	9	146
5. Quiapo.....	19	14	33	.....	.....	.....	33
6. San Miguel.....	10	8	18	1	1	2	20
7. Sampaloc.....	73	77	150	3	5	8	158
Total.....	161	177	338	9	10	19	357
No. III, PACO:							
8. Port Area.....	1	1	2	.....	.....	.....	2
9. Intramuros.....	21	20	41	.....	.....	.....	41
10. Ermita.....	32	30	62	2	3	5	67
11. Malate.....	57	56	113	3	8	6	119
12. Paco.....	17	22	39	2	.....	2	41
13. Pandacan.....	8	9	17	1	1	2	19
14. Santa Ana.....	12	6	18	1	.....	1	19
Total.....	148	144	292	9	7	16	308
Grand total.....	498	497	995	33	33	66	1,061

Attended by physicians, living, 321; stillbirths, 18.

Attended by midwives, living, 87; stillbirths, 2.

Attended by families, living, 653; stillbirths, 13.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	1	.....	1	3.88
Filipinos.....	332	233	615	25.82
Spaniards.....	2	.....	2	12.45
Other Europeans.....	2	.....	2	21.62
Chinese.....	19	10	29	19.77
All Others.....	.....	1	1	5.57
Total and average.....	356	294	650	25.02

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	115	90
Divorced.....	.....	.....
Widowed.....	23	56
Single.....	285	190
Conditions not stated.....	2	.....
Total.....	430	336
Grand total.....	766	

Stillbirths.....	33
Number of deaths with medical attendance.....	598
Number of deaths without medical attendance.....	263

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	91	68	9	6	174
1 year plus.....	51	39	2	4	96
2 years plus.....	22	11	2	.....	35
3 years plus.....	14	9	2	2	27
4 years plus.....	4	10	.....	1	15
5 to 9 years.....	12	10	4	2	28
10 to 14 years.....	6	5	3	1	14
15 to 19 years.....	13	9	4	2	28
20 to 24 years.....	15	11	8	3	37
25 to 29 years.....	18	14	7	4	43
30 to 34 years.....	8	10	7	1	26
35 to 39 years.....	18	19	1	5	43
40 to 44 years.....	6	12	1	2	21
45 to 49 years.....	7	9	8	8	27
50 to 54 years.....	13	7	3	3	26
55 to 59 years.....	15	5	5	1	26
60 to 64 years.....	17	6	3	1	27
65 to 69 years.....	5	4	2	.....	11
70 to 74 years.....	9	13	1	1	24
75 to 79 years.....	4	2	.....	.....	6
80 to 84 years.....	2	6	1	.....	9
85 to 89 years.....	3	5	.....	.....	8
90 to 94 years.....	3	5	.....	.....	8
95 to 99 years.....	.....	3	.....	.....	3
100 years and over.....	1	2	.....	.....	3
Age not stated.....	.....	.....	.....	.....	.....
Total.....	356	294	73	42	765

One (1) male filipino, age 90 yrs., permanent residence unknown, not included in the above table.

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MINILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I. MEISIC:			
1. Tondo.....	128	91	219
2. San Nicolas.....	31	23	54
3. Binondo.....	13	18	31
Total.....	172	132	304
No. II. SAMPALOC:			
4. Santa Cruz.....	54	41	95
5. Quiapo.....	8	10	18
6. San Miguel.....	5	4	9
7. Sampaloc.....	52	54	106
Total.....	119	109	228
No. III. PACO:			
8. Port Area.....	.....	1	1
9. Intramuros.....	11	11	22
10. Ermita.....	3	3	6
11. Malate.....	27	23	50
12. Paco.....	11	7	18
13. Pandacan.....	6	2	8
14. Santa Ana.....	7	6	13
Total.....	65	53	118
Grand total.....	356	294	650

V. Diseases of the respiratory system

97-107

99

Bronchitis:

- a. acute.....
b. Chronic.....
c. Unspecified (under 5 years of age).....

Bronchopneumonia:

- a. Bronchopneumonia.....
b. Capillary bronchitis.....

Pneumonia:

- a. Lobar.....
b. Unspecified.....

Pleurisy.....

VI. Diseases of the digestive system

Ulcer of the stomach and duodenum:

- a. Ulcer of the stomach.....
b. Duodenal ulcer.....

Diarrhea and enteritis (under 2 years of age).....

Diseases due to other intestinal parasites:

- a. Nematodes (other than ancylostoma).....
b. Trichinella.....
c. Other.....

Appendicitis and typhlitis.....

Hernia, intestinal obstructions:

- a. Hernia.....
b. Intestinal obstruction.....

Cirrhosis of the liver:

- a. Not specified as alcoholic.....
b. Not specified as alcoholic.....

Peritonitis without specified cause.....

VII. Nonvenereal diseases of the genitourinary system and annexa

Acute nephritis (including unspecified under 10 years of age).....

Chronic nephritis (including unspecified under 10 years of age).....

Other diseases of the kidneys and annexa.....

Cysts and other benign tumors of the ovary.....

VIII. The puerperal state

Accidents of pregnancy:

- a. Ectopic gestation.....
b. Ectopic gestation.....
c. Others under thirteenth.....

Puerperal hemorrhage.....

Puerperal septicemia.....

IX. Diseases of the skin and of the cellular tissue

Gangrene.....

Furuncle.....

Acute abscess.....

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NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued
[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
159—	<i>XI. Malformations</i>													
159	Congenital malformations (stillbirths not included):													1
	b. Congenital malformations of the heart.....			1										
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema.....			18	14						1			33
161	Premature birth; injury at birth:													
	a. Premature birth (not stillborn).....			4	2									6
	b. Injury at birth (not stillborn).....				1									1
164—	<i>XIII. Old age</i>													
164	Senility.....			8	25									33
165-203	<i>XIV. External causes</i>													
172	Suicide by jumping from high places.....							1						1
178	Conflagration.....									1	6			7
182	Accidental drowning.....									1				1
183	Accidental traumatism by firearms (wounds of war excepted)			1										1
185	Accidental traumatism by fall.....			1										1
187	Accidental traumatism by machines.....			1										1
188	Accidental traumatism by other crushing (vehicles, railways, landlides, etc.):													
	a. Railroad accidents.....			1										1
	c. Automobile accidents.....			1										1
	e. Motorcycle accidents.....							1						1
198	Homicide by cutting or piercing instruments.....			1										1
202	Other external violence.....			1										1
	Total.....	1	332	283		2		2		19	10		1	650
	Grand total.....	1	615			2		2		29		1		650

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
70-86	<i>III. Diseases of the nervous system and of the organs of special sense</i>													
71	Meningitis:			1										1
	a. Simple meningitis.....													
74	Cerebral hemorrhage, apoplexy:			1										1
	a. Cerebral hemorrhage.....					1								1
	b. Cerebral embolism and thrombosis.....													1
77	Other forms of mental alienation.....			1	2									3
87-96	<i>IV. Diseases of the circulatory system</i>													
90	Other diseases of the heart.....			2	3									5
97-107	<i>V. Diseases of the respiratory system</i>													
99	Bronchitis:													
	a. Acute.....			1	2									3
	b. Chronic.....			1	1									2
100	Bronchopneumonia:													
	a. Bronchopneumonia.....			5	4									9
	b. Capillary bronchitis.....				1									1
101	Pneumonia:													
	a. Lobar.....			9	5									14
108-127	<i>VI. Diseases of the digestive system</i>													
108	Diseases of the mouth and annæxa.....			1										1
109	Diseases of the pharynx and tonsils (including adenoid vegetations):													
	b. Others under this title.....			1										1
111	Ulcer of the stomach and duodenum:													
	a. Ulcer of the stomach.....			3		1								4
113	Diarrhea and enteritis (under 2 years of age).....													1
114	Diarrhea and enteritis (2 years and over).....			3										3
117	Appendicitis and typhlitis.....			1										1

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Diphtheria.....					1	1
16. Dysentery:						
c. Unspecified or due to other causes.....					1	1
29. Tetanus:						
a. Umbilical.....				3		3
32. Tuberculosis of the meninges and central nervous system.....					2	2
38. Syphilis.....					1	1
55. Borbери.....		1		5	19	25
56. Rickets.....					6	6
71. Meningitis:						
a. Simple meningitis.....				1	3	4
99. Bronchitis:						
a. Acute.....					22	22
b. Chronic.....					8	8
100. Bronchopneumonia:						
a. Bronchopneumonia.....				1	25	26
b. Capillary bronchitis.....					6	6
101. Pneumonia:						
a. Lobar.....					1	1
b. Unspecified.....					1	1
113. Diarrhoea and enteritis.....					16	16
116. Diseases due to other intestinal parasites:						
c. Nematodes (other than ancylostoma).....					1	1
128. Acute nephritis.....					3	3
129. Chronic nephritis.....					1	1
152. Furuncle.....					2	2
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart.....				1		1
c. Others under this title.....				1		1
160. Congenital debility, icterus, and sclerema.....	11	4		11	8	34
161. Premature birth: Injury at birth:						
a. Premature birth (not still-born).....	5	1				6
b. Injury at birth (not still-born).....	1					1
178. Conflagration.....					1	1
Total.....	17	6		23	128	174

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	22,590
Number of rats caught by spring traps.....	2,795
Number of cage wire traps set.....	660
Number of rats caught by cage wire traps.....	0
Number and kind of baits (coconuts).....	23,250
Number of poison portions placed.....	13,822
Number of rats found poisoned.....	196
Number of rats killed by clubs and other weapons.....	749
Number of rats found dead from other causes.....	658
Total number of rats otherwise caught, found dead, or killed.....	4,398
Total number of rats sent to the laboratory for examination.....	4,398
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF APRIL, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I. {	2	1	2	1					2	1	2	1	4	2
No. 1.....														
No. 2.....			2								2		2	
No. 3.....	1	1							1	1			1	1
No. 4.....	3	1	2	1					3	1	2	1	5	2
No. 5.....	1								1				1	
No. 6.....	1		1						1		1		2	
No. 7.....	1								1				1	
No. 8.....			2								2		2	
No. 9.....	1								1				1	
No. 10.....	2	1	1	1					2	1	1	1	3	2
No. 11.....	2	1							2	1			2	1
No. 12.....	1	1							1	1			1	1
No. 13.....														
No. 14.....														
Total.....	15	6	10	3					15	6	10	3	25	9

REMARKS:

Cases confirmed as typhoid fever

Cases confirmed as paratyphoid fever

By autopsy.....

By blood culture.....

By widal reaction.....

By urine examination.....

By feces examination.....

By clinical symptoms.....

Cases reported among nonresident persons not included in the table

Deaths reported among nonresident persons not included in the table.....

Typoid Carrier—None.

25

0

0

0

0

0

0

16

4

4

DYSENTERIES REPORTED DURING THE MONTH OF APRIL, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1	1	2	1	4	4	1	1	5	5	2	1	7	6
	No. 2										1	1	1	1
	No. 3													
	No. 4	1							1				1	
	No. 5													
II.	No. 6	1							1	1			1	
	No. 7													
	No. 8		1	1			1	1			2	2	1	1
	No. 9												2	2
III.	No. 10													
	No. 11													
	No. 12													
	No. 13													
	No. 14													
Total	3	2	3	2	4	4	2	2	7	6	5	4	12	10

REMARKS:

Amoebic dysentery..... 1
 Bacillary dysentery..... 5
 Unspecified..... 6
 Cases reported among nonresident persons not included in the table..... 3
 Deaths reported among nonresident persons not included in the table..... 5
 Dysentery Carrier—1

CHOLERA REPORTED DURING THE MONTH OF APRIL, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I.	No. 1																			
	No. 2																			
	No. 3																			
	No. 4	1											1						1	
II.	No. 5																			
	No. 6																			
	No. 7																			
	No. 8																			
	No. 9																			
	No. 10																			
III.	No. 11																			
	No. 12																			
	No. 13																			
	No. 14																			
Total	1	1											1	1					1	1

REMARKS:

No nonresident case was reported during the month.

Cholera Carrier—16

DIPHTHERIA REPORTED DURING THE MONTH OF APRIL, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home				Total				Grand total	
	Male			Female			Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.																
No. 1.		1										1			1	1
No. 2.				1									1		1	1
No. 3.					1							1				1
No. 4.				1									1		2	
No. 5.	1										1					
No. 6.																
No. 7.				1									1		1	1
No. 8.																
No. 9.																
No. 10.																
No. 11.	1										1				1	
No. 12.																
No. 13.				1									1		1	
No. 14.																
Total.	2	2		4	2						2	2	4	2	6	4

REMARKS:

Cases reported among nonresident persons not included in the table.

Deaths reported among nonresident persons not included in the table.

Diphtheria Carrier—1

5

2

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF APRIL, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	15	5	1	2
Varicella.....	68	34		
Varioloid.....				
Smallpox.....				
Measles.....	28	19	2	
Whooping cough.....	1		1	
Influenza.....	8	11	1	8
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	146	111	79	55
Tuberculosis of other organs.....	10	1	10	1
Beriberi, infantile.....	18	7	18	7
Beriberi, adult.....	1	2	1	2

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	7	2		1
Varicella.....	8	4	2	
Varioloid.....				
Smallpox.....				
Measles.....	2			1
Whooping cough.....				
Influenza.....	2	1	1	1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	2		2	
Pulmonary tuberculosis.....	25	13	12	4
Tuberculosis of other organs.....	1	2	1	2
Beriberi, infantile.....				
Beriberi, adult.....		1		1

**REPORTED ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF APRIL, 1926**

Sera and vaccines	On hand April 1, 1926	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	330,000	500,000	830,000	400,000	430,000
Anti-dysenteric serum (ampoules).....	89		89		89
Anti-tetanic serum (units).....	385,000	502,000	887,000	202,000	685,000
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	73,640	312,000	385,640	333,560	52,080
Dried vaccine virus (units).....	53,650	114,450	168,100	93,200	74,900
Fresh vaccine virus (units).....	78,000	200,000	278,000	188,400	89,600
Gonococcus vaccine (ampoules).....		100	100	100	
Mixed (typhoid-cholera) vaccine (c.c.).....	9,900	150,000	159,900	141,900	18,000
Normal horse serum (ampoules).....		30	30	30	
Typhoid vaccine (c.c.).....	6,410	12,000	18,410	11,700	6,710

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF APRIL, 1926

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated					
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over	
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Total
No. 1.	Tondo.....	1,337	272	572	493	250	37	44	5	321
	San Nicolas.....	243	138	51	54	80	14	4	4	94
	Binondo.....	191	73	62	56	34	7	8	7	54
	Santa Cruz.....	218	160	29	29	125	4	13	4	140
	Quiapo.....	82	69	14	9	21	5	10	2	32
No. 2.	San Miguel.....	68	47	11	10	16	4	12	1	34
	Sampaloc.....	162	104	27	31	153	11	12	4	169
	Port Area.....									
	Intramuros.....	68	41	21	6	24	4			24
	Ermita.....	144	79	54	11	29	7	5	2	34
No. 3.	Malate.....	186	88	78	20	122	17	6	1	128
	Paco.....	150	100	46	4	71	4	5		76
	Pandacan.....	47	32	9	6	26	4	4	2	30
	Santa Ana.....	60	39	17	4	16	3	3		19
	Total.....	2,956	1,232	991	733	957	121	126	36	1,155
								62	40	197

Vaccine virus:

Received.....	20,400
Used.....	12,800
Remained.....	7,600

Health districts	Municipal districts	Number of injections made in—										Total number of injections							
		Adults						Children				First		Second		Third			
		First injections		Second injections		Third injections		First injections		Second injections								Third injections	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.		
No. 1	Tondo.....		576		571		481	7	583	7	499	2	411		7	1,159		892	
	San Nicolas.....		524		529		514		84		58		73		7	1,070	2	587	
	Binondo.....		335		337		178		16		351		8		361	608		341	
	Santa Cruz.....		717		645		898		203		175		186		920	820		1,094	
	Quiapo.....		374		385		227		276		287		211		650	672		438	
No. 2	San Miguel.....		70						28						98				
	Sampaloc.....		565		623		641	13	378	31	405	20	337		13	943	31	1,028	
	Port Area.....		15		14		9								15	14		9	
	Intramuros.....	88	691	37	487	38	344	17	287	5	152	2	97		105	978	42	639	
	Ermita.....		124						13							137			
No. 3	Malate.....		345		316		313	4	312	4	253		266		4	657	4	569	
	Paco.....		348		314		353		273		263		263			621		577	
	Pandacan.....		18						9							27			
	Santa Ana.....		170		117		312		100		43		160			270	160		
	Total.....	88	4,872	37	4,338	38	4,270	41	2,562	47	2,139	24	2,012		129	7,434	84	6,477	62	6,282

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine used for the third injections.

V. in persons never vaccinated before; R. revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	25,097	3,179	15,975	5,943
Agusan.....	562	108	346	108
Albay.....	5,463	2,216	625	2,622
Antique.....	30,834	5,891	17,691	7,252
Bataan.....	3,442	1,248	1,099	1,095
Batanes.....	908	50	222	636
Batangas.....	5,400	1,627	983	2,790
Bohol.....	8,737	1,693	3,384	3,660
Bukidnon.....	984	186	348	450
Bulacan.....	28,380	3,613	23,013	1,754
Cagayan.....	5,916	1,098	2,736	2,082
Camarines Norte.....	1,527	648	464	415
Camarines Sur.....	40,582	5,102	29,223	6,257
Capiz.....	45,761	11,762	29,701	4,288
Catanduanes.....	1,239	334	217	688
Cavite.....	2,769	772	1,043	954
Cebu.....	26,971	7,984	7,843	11,144
Cotabato.....	7,533	2,513	2,161	2,859
Davao.....	674	198	177	299
Ilocos Norte.....	8,036	2,225	2,369	3,442
Ilocos Sur.....	10,858	2,547	1,337	6,474
Iloilo.....	13,739	6,033	2,893	4,813
Isabela.....	35,710	7,417	25,250	3,043
Laguna.....	5,518	1,713	2,773	1,032
Lanao.....	838	276	289	273
La Union.....	5,619	1,122	557	3,940
Leyte.....	17,456	6,178	1,260	10,018
Marinduque.....	1,680	328	268	1,084
Masbate.....	1,771	597	343	831
Mindoro.....	25,475	3,972	18,219	3,284
Misamis.....	25,552	4,310	13,858	7,384
Nueva Ecija.....	11,999	3,620	2,568	5,811
Nueva Viscaya.....	2,604	215	780	1,609
Occidental Negros.....	9,587	4,507	2,884	2,196
Oriental Negros.....	6,502	1,594	2,225	2,683
Palawan.....	471	116	117	238
Pampanga.....	13,973	2,542	5,945	5,486
Pangasinan.....	20,955	6,198	4,732	10,025
Rizal.....	19,804	2,310	16,250	744
Samar.....	32,282	5,600	22,999	3,683
Sorsogon.....	2,372	1,390	.....	982
Sulu.....	3,075	1,843	477	755
Surigao.....	12,890	3,636	4,242	5,012
Tarlac.....	8,871	1,782	5,281	1,808
Tayabas.....	8,991	3,584	2,650	2,757
Zambales.....	1,673	574	155	944
Zamboanga.....	4,295	908	2,203	1,184
Total.....	554,365	127,359	280,175	146,831

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926**—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	488	218	3,032	866	8,266	4,298	11,786	5,877
Agusan.....	8		11	10	30	19	49	29
Albay.....	966	318	787	215	570	233	2,273	766
Antique.....	1,229	251	2,956	1,538	6,623	11,167	10,808	12,956
Bataan.....	681	100	1,205	512	431	313	2,317	925
Batanes.....	47	25	180	71	384	199	561	295
Batangas.....	504	58	1,004	353	819	868	2,327	1,279
Bohol.....	946	211	1,273	500	2,623	2,014	4,842	2,725
Bukidnon.....	23	5	49	28	280	122	332	145
Bulacan.....	1,357	98	2,695	813	10,879	9,726	14,931	10,637
Cagayan.....	412	38	888	166	2,554	1,370	3,854	1,574
Camarines Norte.....	132	21	220	53	305	86	657	160
Camarines Sur.....	1,090	118	3,840	592	13,698	5,264	18,626	5,974
Capiz.....	1,402	25	4,294	359	20,088	7,412	26,784	7,796
Catanduanes.....	144	85	185	47	187	200	416	332
Cavite.....	428	54	519	134	1,056	512	2,003	700
Cebu.....	1,748	672	1,517	573	2,754	2,355	6,019	3,600
Cotabato.....	110	65	437	363	1,535	1,211	2,082	1,639
Davao.....	21	12	59	30	340	171	420	213
Ilocos Norte.....	987	138	1,728	381	2,046	1,821	4,761	2,340
Ilocos Sur.....	1,861	355	2,135	795	1,769	1,575	5,765	2,725
Iloilo.....	1,084	149	2,323	444	3,889	1,630	7,296	2,223
Isabela.....	975	83	4,134	832	13,773	8,265	18,882	9,180
Laguna.....	759	140	564	326	782	2,136	2,105	2,602
Lanao.....	26	8	49	17	67	22	142	47
La Union.....	459	140	620	508	703	984	1,782	1,632
Leyte.....	1,075	378	2,461	854	3,870	1,681	7,406	2,813
Marinduque.....	86	19	216	98	362	74	664	191
Masbate.....	116	51	240	138	500	233	866	422
Mindoro.....	483	21	2,243	153	10,788	4,856	13,514	5,030
Misamis.....	496	53	2,307	338	9,157	4,802	11,960	5,193
Nueva Ecija.....	1,510	228	2,809	756	2,794	2,101	7,113	3,085
Nueva Vizcaya.....	84	9	226	119	788	1,406	1,098	1,534
Occidental Negros.....	1,259	217	1,536	459	2,946	932	5,741	1,608
Oriental Negros.....	515	170	1,060	419	1,873	959	3,448	1,548
Pampanga.....	33	7	53	12	229	151	315	170
Pangasinan.....	728	204	1,151	365	2,700	1,686	4,579	2,255
Palawan.....	2,948	442	4,344	1,104	5,240	4,180	12,532	5,726
Rizal.....	742	59	1,549	587	3,207	6,530	5,498	7,176
Samar.....	571	64	4,029	350	3,577	2,212	8,177	2,626
Sorsogon.....	171	53	489	156	255	81	915	290
Sulu.....	140	31	494	129	1,042	477	1,676	637
Surigao.....	288	103	1,138	493	3,732	3,272	5,158	3,868
Tarlac.....	966	278	1,564	526	2,231	2,535	4,761	3,339
Tayabas.....	1,035	204	2,014	415	3,127	1,562	6,176	2,181
Zambales.....	280	76	365	164	372	400	1,017	640
Zamboanga.....	251	97	264	175	561	865	1,076	1,137
Total.....	31,664	6,146	67,106	18,336	155,730	104,858	254,500	129,340

¹ Incomplete; reports from other provinces not yet received.

Vaccinations performed by the Vaccinating Parties are included in the above table.

**CONSOLIDATED REPORTS OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	11,274			11,274
Antique.....	9,077			9,077
Bataan.....	15,813			15,813
Batanes.....				
Batangas.....	118,498			118,498
Bukidnon.....	158	150		308
Bulacan.....	29,103	416		29,519
Cagayan.....				
Camrines Norte.....	101	57		158
Camarines Sur.....	6,936			6,936
Capiz.....	91,420			91,420
Catanduanes.....	2,382	244		2,626
Cavite.....	20,776			20,776
Cotabato.....				
Davao.....	922	693		1,615
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	1,720	796		2,516
Isabela.....				
Laguna.....	100,504	14,331	1,164	115,999
Lanao.....				
La Union.....	3,953	1,458		5,411
Leyte.....	8,872	3,991		12,863
Marinduque.....	137,758	40,345	5,087	183,190
Masbate.....	1,122	735		1,857
Mindoro.....	27,986	3,509	220	31,715
Mountain Province.....				
Nueva Ecija.....	29,685			29,685
Nueva Vizcaya.....				
Oriental Negros.....				
Pampanga.....	138,024	3,467		141,491
Pangasinan.....	244,519			244,519
Rizal.....	137,606			137,606
Romblon.....	339			339
Sorsogon.....	9	34		43
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zamboanga.....				
Total.....	1,146,860	70,226	6,471	1,223,557

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORTS OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....				
Antique.....				
Bataan.....				
Batanes.....				
Batanga.....	153	94	10	257
Bukidnon.....				
Bulacan.....				
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....				
Catanduanes.....	349	46		395
Cavite.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....				
Laguna.....				
Lanao.....				
La Union.....	1,188	137	38	1,863
Leyte.....				
Marinduque.....				
Masbate.....				
Mindoro.....				
Mountain Province.....				
Nueva Ecija.....				
Nueva Vizcaya.....				
Oriental Negros.....				
Pampanga.....	94	37	14	145
Pangasinan.....				
Rizal.....				
Romblon.....				
Sorsogon.....				
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zamboanga.....				
Total.....	1,784	314	62	2,160

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORTS OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA) VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926

Provinces	First injections	Second injections	Third injections	Total
Abra.....	715	1,220		1,935
Agusan.....	4,141	1,547		5,688
Albay.....				
Antique.....				
Bataan.....	119	57		176
Batanes.....	80	54	52	186
Batangas.....				
Bukidnon.....				
Bulacan.....				
Cagayan.....	369	197		566
Camarines Norte.....	238	207		445
Camarines Sur.....	2,638	1,059		3,697
Capiz.....	27,163			27,163
Catanduanes.....				
Cavite.....				
Cotabato.....	211	30		241
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....	880	520		900
Iloilo.....	14,265	3,382		17,647
Isabela.....	107	20		127
Laguna.....				
Lanao.....	2,277	413		2,690
La Union.....	213	87	31	331
Leyte.....				
Marinduque.....	38			38
Maabate.....	2,763	565		3,328
Mindoro.....				
Mountain Province.....	148			148
Nueva Ecija.....				
Nueva Vizcaya.....				
Oriental Negros.....	449	289		738
Pampanga.....	1,668	575		2,243
Pangasinan.....	90	57		147
Rizal.....	46	41		87
Romblon.....				
Sorsogon.....	326			326
Sulu.....				
Surigao.....				
Tarlac.....	20,654	10,103		30,757
Tayabas.....	13,218	4,481		17,699
Zamboanga.....	2,241	76	15	2,332
Total.....	94,557	24,980	98	119,635

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF APRIL, 1926

Province and town	Cases	Deaths
Mindoro:		
Baco.....	6	2
Total.....	6	2

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF APRIL, 1926

Province and town	Cases	Deaths
Albay:		
Libon.....	1	1
Total.....	1	1

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF APRIL, 1926**

	Health districts			
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	Total
Orders pending, April 1, 1926:				
Minor	118	112	96	326
Sewer	24	55	7	86
Vacating	8	13		21
Filling	10	84	15	59
Total	160	214	118	492
Orders issued during the month:				
Minor	6	28	5	39
Sewer		2		2
Vacating				
Filling				
Total	6	30	5	41
Orders completed during the month:				
Minor	9	18	11	38
Sewer	1		1	2
Vacating				
Filling			1	1
Total	10	18	13	41
Orders cancelled during the month:				
Minor				
Sewer				
Vacating				
Filling				
Total				
Orders pending, April 30, 1926:				
Minor	115	122	90	327
Sewer	23	57	6	86
Vacating	8	13		21
Filling	10	34	14	58
Total	156	226	110	492
Strong material plans approved:				
New buildings including additions and alterations	26	50	47	123
Permits for minor building constructions:				
Approved	80	56	38	124
Disapproved	5	2	6	13
New buildings completed	20	28	46	94
Permits for light and mixed material constructions:				
Approved	16	32	70	118
Disapproved	2	6	25	33
Prosecutions:				
Convictions		1		1
Dismissals				
Amount of fines		P5.00		P5.00
Plumbing projects issued	40	69	38	147
Plumbing projects completed	39	53	55	147
Premises connected to the sanitary sewer to March 31, 1926	2,476	4,200	564	7,240
Connected during the month	4	12	15	31
Total	2,480	4,212	579	7,271

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN

OF THE

PHILIPPINE HEALTH SERVICE

VOL. VI

MAY, 1926

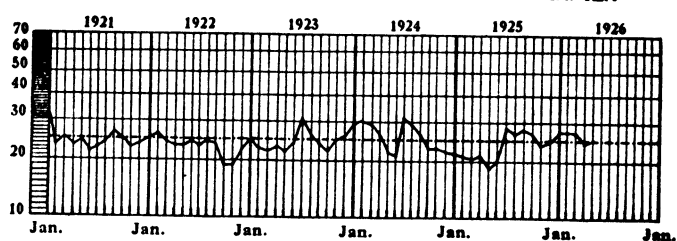
No. 5

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL VI

MAY, 1926

No. 5

**SANITATION AND MALARIA CONTROL AT
NOVALICHES¹**

Owing to the serious character which the malaria situation had assumed in the latter part of February of this year among the laborers at the Novaliches Dam Projects, it was deemed necessary to organize the work upon a more scientific basis and for this purpose a detailed outline of the work to be performed was made.

A medical officer, two sanitary engineers, a supervising sanitary inspector, and three sanitary inspectors were detailed for the campaign.

The medical officer was placed in charge of all the work and full instruction as regards the work to be accomplished and the full coöperation of the Metropolitan Water District authorities was sought for the best performance of his duties.

For the success of his work, besides facilities of lodging, transportation, etc., the personnel was not permitted to dwell in houses other than those constructed in selected places within the labor camps and an isolation barrack or waiting station, properly screened, was constructed for use of new laborers where they may be examined and kept under observation for several days before they are permitted to work. This building was provided with an independent room with four bed capacity, which was used as an infirmary.

Water used for drinking in some camps is not safe. The contractors were asked to use Lyster bags with the necessary chemical for the treatment of drinking water.

The contractors furnished a laborer for each camp for the purpose of sweeping, cleaning, disinfecting water closets, and

¹ From the Division of Communicable Diseases.

helping our sanitary inspectors in the maintenance of the sanitation and cleanliness of the camps.

Up to this time the disposal of excreta in some camps was in an unsatisfactory condition. The contractors were asked to improve the closets and latrines under the direction of the physician in charge of the sanitation of the camps.

OUTLINE OF WORKS TO BE DONE AT NOVALICHES. MEDICAL AND PROPHYLACTIC PART

PHILIPPINE HEALTH SERVICE Division of Communicable Diseases

A. PRELIMINARY WORKS

1. Visit the camps and inspect the areas covered.
2. Prepare the map and location of inhabited places with the sites of houses.
3. List of "capataces" and "subcapataces" with the list of laborers under their care including members of family.
4. Request the "capataces" and "subcapataces" to furnish a new list whenever new laborers come into the camp. A list of those discharged from the works must also be furnished.
5. Urge the establishment of an isolation barrack or waiting station wherein newcomers may be examined and kept under observation for several days. This building should be screened and provided with an independent room for at least four beds to be used as infirmary.
6. Ask the "contratistas" or "subcontratistas" to furnish him with at least one laborer for each camp for the purpose of cleaning, sweeping, disinfecting of water closets, and to help the sanitary inspectors in their work.

B. MEDICAL WORK

1. Physical examination of all laborers (old and newcomers), including laboratory examinations.
2. Keep a record of all patients (use individual cards attached) with their corresponding diagnosis and treatment day by day.
3. Visit the patients every day and record the visits on the individual card.
4. Prescribe the medicine and be sure that same is taken.
5. Send patients to San Lazaro Hospital or to any other hospital whenever he believes the sickness needs a long treatment.
6. As the work is especially intended for malaria control, malaria patients should be given 3-10 grain tablets of quinine daily. One tablet per dose at the necessary intervals an hour until 2 days after the remission of the fever. Thereafter one tablet every day for 8 weeks for sterilization purpose should be given.
7. All other diseases should be treated and handled accordingly.
8. In connection with this work, the officer in charge will ask the sanitary inspectors and "capataces" to report to him the absentees and the sick persons found in their daily inspection. This does not mean that the medical officer is relieved from inspection duty.

9. Isolate in the infirmary all patients whenever necessary and while awaiting for transfer to the hospital.

C. PROPHYLACTIC PART

1. Investigate and detect latent cases and carriers of malaria.
2. Give them for 8 weeks one 10-grain quinine tablet every day.
3. Supervise the administration of quinine.
4. Keep a record of this work.
5. Follow-up of the reported cases of malaria for their proper sterilization after treatment.
6. Convince the people as regards the use of mosquito nets.
7. Inoculate all laborers and family members with antityphoid and anticholera vaccine. Keep a record of same. The best way is to inoculate all laborers working in the camp at present and continue vaccinating all newcomers at their arrival in the isolation barrack.
8. Supervise the mosquito control work.

D. MOSQUITO CONTROL

1. Locate all breeding places of mosquitoes.
2. Identification and classification of mosquitoes with special reference to malaria transmitters species.
3. Prepare a map of the camp indicating all breeding places found and specifying also the species or kinds of mosquitoes for each breeding place.
4. Prepare the laborers' schedule for the spraying of of Paris green in accordance with the foregoing plan or sketch of breeding places.
5. Prepare inspection schedule.
6. Report cost of mosquito control, both labor and material.

E. SANITATION

1. Inspection and supervision of:
 - (a) Housing conditions;
 - (b) Water closets and waste disposal;
 - (c) Drinking water;
 - (d) Camps and surroundings; and
 - (e) Prevalence of flies and other insects.
2. Record of findings during inspection.
3. Correction of nuisance and other bad sanitary conditions.
4. Issuance of sanitary orders to responsible "contratistas" whenever correction of insanitary conditions are believed necessary.
5. Suggestions as to the improvement of sanitary conditions.
6. Under (a) of No. 1, overcrowding, cleanliness, breeding places for mosquitoes should be looked for. Under (b) of the same number, water closets should be inspected, excreta covered with earth or lime or properly disinfected, cleanliness of the place. Under (c) of the same number, drinking water must be safe and if no safe water is available, proper treatment by chlorine or calcium hypochlorite or bleaching powder. Receptacles for drinking water and handling of same. Under (d) see that the camps are free from garbage and dirt; the surroundings must be in clean sanitary conditions. Ditches, stagnant water, etc., must be looked for. Under (e) abatement of breeding places for flies.

F. DUTIES OF THE MEDICAL OFFICER IN CHARGE

1. Supervise all the work of his personnel.
2. Submit a weekly report of the progress of the work and other activities.
3. See that at any date he has in stock plenty of medicines, supplies and materials necessary for at least one week's work.
4. Any shortcoming, abnormalities, objections, etc., noted in the performance of his duties should be immediately reported to the Central Office.
5. Give the necessary instructions to his personnel as to the proper performance of their duties in accordance with this outline of work, and also as to the maintenance of sanitation and cleanliness in the camp.
6. Attached is a copy of the circular regarding treatment of water in emergency camps for his information. Instruction to the personnel should be given in this connection.

MARCH 9, 1926

THE PUBLIC HEALTH VALUE OF THE KAHN PRECIPITATION TEST WITH SPECIAL REFERENCE TO YAWS¹

BY ELOY V. PINEDA, M.D., AND H. W. WADE, M.D.

*From the Pathological Section, Culion Leper Colony,
Philippine Health Service*

An important feature of modern serological work has been the many efforts to arrive at a reliable, simple test to replace the intricate, time-consuming, and expensive Wassermann reaction. If there is need of such a simpler test in centers where there are numerous laboratories equipped for such work, there is greater need in less well-developed communities where elaborate laboratory service is not available.

During the past few years a group of flocculation or precipitation tests has been developed that differ radically from the Wassermann in technic, though they have the same significance since they demonstrate the same serum changed. Essentially they consist of reactions between the serum to be tested and antigens of practically the sort as used in the Wassermann, but so manipulated as to result in positive tests in visible precipitates, which are examined directly. Complement is not used, and the blood-cell-hemolysin complex, used in the Wassermann required to detect binding of complement, is not required.

Of the several tests in this group, that proposed by Kahn,² in 1922, has rapidly found particularly favor. Its specificity has been proven beyond doubt, and its sensitiveness has been reported by several writers as quite as satisfactory as that of standard Wassermann technics. Recognition of its value is not limited to its country or origin, for it has found approval in Europe.

The simplicity of this test is such that dependable results may be obtained with it by any careful worker who has some

¹Read before the Annual Meeting of the Philippine Islands Medical Association, December 16, 1925. Published with the consent of the Director of Health.

²Kahn, R. L. A Simple Quantitative Precipitation. Reaction for Syphilis. Preliminary Communication. Arch, Dermat & Syph. 5, 570, 1922.

degree of proficiency in the simpler medical laboratory procedures. In other words, it does not require a trained serologist, but may be used by any careful physician who does his own clinical laboratory work. Because it can be carried out under conditions that would preclude the use of the Wassermann, particularly attention should be paid this reaction in the Philippines with a view to its general use in public health work.

Granting that syphilis is a much less-important factor in community morbidity in the Philippines than in most other regions, nevertheless it is not wholly to be ignored, particularly in the more populous maritime centers. More important, however, is its sister infection, yaws, at least in many communities, and it is in connection with the attempted control of this disease that some simple serological test for the treponematosus infections may be expected to find its most useful immediate field.

Though the Kahn test has been applied very extensively in syphilis, we have not been able to find any report of its use in yaws. Therefore, this opportunity is taken to record the results obtained in the group of yaws cases found in the leper population of Culion and in few non-lepers from nearby islands who have come to Culion requesting treatment for yaws.

The Kahn reaction in leprosy.—It is to be emphasized that leprosy itself seems to have no tendency whatever to cause positive Kahn reactions. This was the conclusion of Yagle and Kolmer³ and the experience of Pineda and Roxas-Pineda.⁴ When this reaction is positive in leprosy it has the same significance as in nonlepers. In fact, we consider it decidedly preferable to the Wassermann for use in a leper population because of its freedom from any tendency to give the false positive that are common with most Wassermann technics.

Comparison of results, Kahn and Wassermann tests.—To illustrate the correspondence between the results obtained with the Kahn and Wassermann tests, our own findings are given in Table 1. Of thirteen hundred Kahn reactions done to date, 575 were performed in parallel with the Wassermann. For the former test Kahn's improved technic was used⁵ with a chole-

³ Yagle, E. M. and Kolmer, J. A. The Kahn Precipitation in Leprosy. Arch. Dermat and Syph. 8, 183, 1923.

⁴ Pineda, E. V. and Roxas-Pineda, E. Studies in the Serology of Leprosy. III—The Kahn Precipitation Reaction in Leprosy. Phil. Journ. Sci. (In press.)

⁵ Kahn, R. L. The Kahn Precipitation Reaction for Syphilis. Am. Journ. Pub. Health, 14, 498, 1924.

trinizized antigen; for the latter, Kolmer's standardized technic was used. In tabulating the results we have considered as strongly positive only those cases giving a 4 plus reaction; moderately positive the 3 and 2 +; and the + and \pm as doubtful.

TABLE 1.—*Comparison Between Wassermann and Kahn tests.*
(Whole group)

	Wassermann	Kahn			
		Strongly positive	Moderately positive	Doubtful	Negative
53	Strongly positive.....	41	10	2	0
41	Moderately positive.....	16	17	5	3
15	Doubtful.....	2	1	1	11
466	Negative.....	1	7	6	462
575	Totals.....	60	35	14	466

Taking the figures grossly, the Wassermann gave 94 (16.3 per cent) strongly or moderately positive, the Kahn 95 (16.5 per cent). The figures for doubtful and negative are also practically identical.

This remarkably close agreement does not, however, extend to the individual groups, as is seen from the table. It is first noticed that the Kahn test gave a larger number of strongly positive reactions (60 compared with 53). Among the 466 sara negative by the Wassermann, the Kahn gave 8 that were distinctly positive, whereas of the equal number negative by the Kahn, the Wassermann gave but three distinctly positive. However, if the doubtfuls are included the totals are the same (14).

This tendency toward stronger reaction by the Kahn test is further seen on examining in detail the two "strongly positive" columns. None of the 53 strongly positive with the Wassermann was negative with Kahn while the Wassermann gave one negative among those strongly positive by the Kahn. The difference is greater in the moderate column.

The opposite tendency (i. e., for the Kahn to give weaker reactions) is seen in comparing the doubtful columns. This is due to the fact that 9 of the reactions doubtful by the Wassermann were of the non-specific type often obtained in the condition known as lepra reaction,⁶ in which the Kahn test remains negative. In this group, then, the two reactions show among the positives an agreement of 89.4 per cent; in the negative,

⁶ Pineda, E. V. And Roxas-Pineda, E. Studies in the Serology of Leprosy I—The Wassermann Reaction in Leprosy Phil. Journ. of Sci. (In press.)

including the doubtful, there is an agreement of 97.7 per cent thus giving an average agreement of 93.5 per cent.

Yaws.—In the course of our work all patients found serologically positive were examined and questioned by one of us. Fifty-six of the total of 95 (i. e., 59 per cent), showed signs or gave definite histories of yaws. Of these, 12 were active cases with only the primary lesion; in eleven of these both reactions were strongly positive, and in one other, the Wassermann was 3+ reaction, tho the Kahn was 4 plus. This is shown in Table 2.

TABLE 2.—*Active primary yaws*

	Wassermann	Kahn	
		Strongly positive	Moderately positive
11	Strongly positive.....	11	0
1	Moderately positive.....	1	0
12	Total.....	12	0

The remaining forty-four were cases of latent, secondary, tertiary yaws. The serological findings are shown in Table 3.

TABLE 3.—*Comparison between Wassermann and Kahn tests yaws group, latent, tertiary, and secondary cases.*

	Wassermann	Kahn			
		Strongly positive	Moderately positive	Doubtful	Negative
25	Strongly positive.....	24	0	2	0
13	Moderately positive.....	8	5	0	0
1	Doubtful.....	1	0	0	0
4	Negative.....	0	3	1	0
44	Totals.....	33	8	3	0

The greater tendency of the Kahn to give stronger, clearcut reactions is here evidenced by the fact that it was strongly positive with 33 of the 44 sera from cases of yaws while the Wassermann was strongly positive with but 26. Of the entire group none was negative by the Kahn, test, though 4 gave negative Wassermann. In this group, then, the two reactions agree in 94.9 per cent, and where there was disagreement a larger number of sera reacted positively with the Kahn. In this connection, it is to be said that many—though by no means all—of these positive cases were first detected by a routine Kahn, test, the Wassermann being made later for comparison. It may be that had the conditions been reversed specimens showing the reverse characteristics might have been encountered.

It should, however, be stated also that while the Kolmer antigen and technic has been found to be of superior specificity and sensitivity in the diagnosis of syphilis, we have found it to give weaker reactions in yaws than an ordinary technic with the cholesterinized crude alcoholic antigen.

DISCUSSION

The figures for the total results obtained with the Kahn test and the Kolmer-Wassermann are given merely to illustrate anew, from locally obtained data, the close general correspondence of the two. This has been shown so often that these figures are not required to help establish the point.

The findings in yaws cases are of more interest for they are the first to be reported, so far as we are aware. It was to be expected that in this condition, in which the Wassermann test is positive and apparently "specifically" so, the Kahn test would also be positive. Taking all yaws cases together, the positive Kahns agreed with the positive Wassermann in 96 per cent. This is further evidence that the Kahn test depends upon the same serum substance that in treponematous infections gives the Wassermann reaction.

We would call particular attention to the need in the Philippines that a test or tests for treponematous infections be used more extensively than at present. As stated, it is generally believed that syphilis is not as rampant in our population as among many others, and that where present it does not do as much harm. Our experience compels us to subscribe in general to this view. At the same time we strongly believe that these very conditions tend to cause syphilis to be unduly ignored. It does occur; Pineda and Roxas-Pineda found it in roughly 4 per cent of the Culion population, which is drawn from all parts of the Philippines. And when present it is undoubtedly responsible for some morbidity. Free use of an available and inexpensive diagnostic reaction is indicated.

The yaws problem is the more striking, and perhaps actually the larger one. The infection has been found in roughly 10 per cent of the Culion population. The Philippine Health Service has for some time been carrying on an anti-yaws campaign throughout the Archipelago. Manifestations of this infection disappear almost magically upon treatment, but the Wassermann reaction is known to persist much longer. In the general campaign little use has been made, we understand, of the Wassermann. This would be difficult on a large scale. Yet without such investigation of the clinically cured cases it is impossible

to be certain that they have not merely been converted into latent ones, liable later and unexpectedly to develop the most unpleasant manifestations of tertiary yaws.

The relative simplicity of the Kahn test makes it decidedly advantageous for use in the provinces, whether for general or special purposes. Only two reacting substances are used, the serum and the antigen. The latter alone requires titration. The indicating system of the Wassermann being eliminated, the technic of the test is much simpler and more comprehensible to the amateur. The time required for a test is very short; strongly reacting sera often precipitate immediately, and even when incubation is necessary only 15 minutes is required. In this climate an incubator is not absolutely necessary. After a little practice in setting up and reading the test in a laboratory where it is being used, any careful, conscientious physician with the amount of facility in clinical laboratory work now required of medical students by first-class schools should be able to perform the best with reasonably accurate results. It is realized that such a test may offer a gold mine to the practicing unscrupulous half-trained laboratory technician. This does not alter the fact of its value in its legitimate field, when properly used.

SUMMARY

In 575 sera, the Kahn precipitation test was performed in parallel with the Wassermann. The results of the two tests showed an average agreement of 89.4 per cent.

In 56 cases of yaws of all types, the Kahn reaction was clearly positive in 23 cases and doubtfully so in the other 3; it showed an agreement of 94.9 per cent with the Wassermann.

Both the Kahn and the Wassermann were strongly positive in 12 cases of primary yaws. In 44 cases of latent, secondary, and tertiary yaws the Kahn was positive in 41 cases, and where the Kahn and the Wassermann disagreed the former was found to be more sensitive.

The Kahn reaction is quite as reliable as the Wassermann in the diagnosis of treponematous infections, and has great advantages in its simplicity and ease of carrying out. Therefore, it can be recommended as a much needed diagnostic measure for use in small clinical laboratories where it would be impracticable to attempt the Wassermann. Its adoption by provincial officers of the Philippine Health Service is recommended, and its extensive use, both in general medical work and especially in the anti-yaws campaign, is urged.

HOSPITAL ETHICS AND ETIQUETTE

By G. SANTOS CUYUGAN

Chief, Tayabas Provincial Hospital

On a certain occasion in the life of Saint Francis a peasant stopped him and inquired: "Are you Brother Francis?" When answered in the affirmative, the peasant said: "Thy people lay great store by thee, and I admonish thee to be the man they think thou art."

At this early stage in the development of provincial hospitals, already it may be observed that the great masses of the people are beginning to realize and become appreciative of the fact that hospitalization has superior advantages over home treatment in the management and control of disease. They begin to look upon the hospital performance as the embodiment of all the best there is that the healing art can offer, and to regard the result of hospital treatment as the recognized standard. While this is favorable and even flattering to us, provincial hospital officials, it throws upon our shoulders and added element of duty and responsibility. If we were to measure up to the highest expectations of our people and the provincial hospital were to fill its allotted place with merit, we would be derelict of the duty entrusted to us if we should be satisfied with a performance of the hospital staff anywhere short of the recognized standard of efficiency. The question for the hospital is no longer merely to render medical assistance but to render the best medical service possible with the means at hand.

The subject of this lecture confines me to just one feature of hospital management—hospital ethics and etiquette.

Ethics may be defined as the science of the ideal human character.

Etiquette may be defined as the observance of true courtesy, true kindness, true regard for the feeling of others expressed in a refined language and manner.

The subject is well chosen. Its aim is highly cultural and its character highly specialized. Hospital ethics and etiquette certainly deserve our first attention in the management of hospitals, as success depends not only on correct diagnosis and

treatment of cases, but also in a great measure, on a broader understanding of human nature, a more sympathetic attitude toward the trials and tribulations of man, a more sincere concern for the little amenities of life, which all is so essential in the care and treatment of the sick.

Quoting from the "Modern Hospital," "One of the outstanding needs of the hospital today is for more human concern, human affection, human love reaching out to the patients in the same way that the old family physician gave that love. The family physician for the most part gave his patients a high quality of scientific service as medicine was known in his day, but he gave more than that—he gave a genuine love to the people he served, and because he gave that love, he got back love from the people and they placed him in an exalted position."

Here in our country the physician occupies a corresponding position in his relationship with the people, and with the establishment of provincial hospitals thruout the Islands that position is going to be strengthened undoubtedly. It is with this end in view partly and partly to make hospital management more agreeable, more efficient, more satisfactory, that I am here before you today, although speaking on a subject on which I disclaim competence and authority.

Like Saint Francis of old it behooves us to be the men our people believe we are. And there is nothing so helpful in this respect, in my opinion, as by bearing in mind some high ideal of correct behavior and always striving up to it in our daily life, in our daily contact with the public and the personnel as well. A set of rules on right conduct culled from various sources and otherwise added to which I propose to call Government Hospital Principles of Ethics, I think, fills our need. Before reading it permit me to say something personal. It is my sincere belief that the central office assigned me to this subject, not because I am particularly proficient on this matter, but because I myself need it most for my own good. And on that strength and in that light alone do I have the honor and pleasure of reading the following:

1. Let the stay of each patient in the hospital end in friendship, whether the case recovered, improved, unimproved, or died.

2. Treat and deal with patients not as cases but as human beings. Combat the disease but forget not the man.

3. Never argue with patients; persuasion is better than argument. Facts and deeds weigh heavier than word and theories.

4. Everyone—doctor, nurse, admitting clerk, attendant—while on duty in the hospital—occupies the position of a host. The patients are the guests and must be treated with courtesy and kindness, even as hotel guests are treated.

5. No other single factor makes so many friends for a hospital as courtesy and considerateness; and conversely, so many enemies as the lack thereof.

6. Much as business methods are needed in hospitals, rigidity in insisting on certain rules cannot be regarded as really businesslike, for it hurts the hospital more than it earns for it in the way of income and prestige.

7. It must not be lost sight of that the hospital is, and always will be, a home of refuge for the ailing primarily and essentially, and every other consideration is secondary and incidental.

8. Patients often are peevish, cross, rude, and disobedient—think of their ignorance and suffering and the miserable conditions in which they may have lived.

9. Obedience to rules and observance of good conduct should spring from a true spirit of loyalty and the sense of righteousness and not from mere desire of escaping penalties.

10. The management of some patients is either difficult or disagreeable in the extreme, but sympathy, devotion to duty, love of the work are sure marks of success.

11. Many things harmless in themselves, such as loud laughing, boisterous conduct, rough jokes, whistling, are extremely annoying and out of place in a hospital.

12. Patient's records should be regarded as private property and their perusal may be allowed only to competent men.

13. Nurses, doctors, and other personnel should abstain from discussing cases to patients or within their hearing. Gossip in a hospital is abominable.

14. The hospital should have abundant "heart" if less "brain," and which should be manifest thruout the institution, in the admitting clerk as in the chief, in the dispensary, in the kitchen, everywhere.

15. Create the atmosphere that a hospital is not an ordinary business enterprise of the Government, but a holy place of charity where our Heavenly Father rules supreme thru the human heart.

16. Rules and Regulations are indispensable for the government of the hospital and are intended for the good of the patients themselves, who should observe them if they wish to enjoy the service.

17. Some rules may appear captious and unfair but think of the tremendous odds the hospital management has to contend with and overcome in dealing with abnormal people such as the sick are.

18. The public should be cognizant of the fact, that, in spite of undreamed of progress and marvelous achievements so far attained, medical art and science is still in its infancy and the result of treatment for many diseases unsatisfactory.

19. Authority is delegated and responsibility shifted for the same reason that work is divided among the different units. The head can no more supervise all details than can he do all the work by himself.

20. Bear in mind that provincial hospitals are maintained chiefly with Government funds and Government employees, rightly or wrongly, feel entitled to more than ordinary attention on the part of hospital officials.

21. Every applicant, whether for admission, consultation, treatment, or mere examination, irrespective of social status, should at least receive a cursory examination, prescription, or advice as the case may be.

22. With respect to private practitioners of medicine, our conduct should be ruled by the golden injunction, "Do unto others as you would be done by" and also by the Oath of Hippocrates.

23. Technical efficiency is not all there is to a truly successful hospital management—the personnel, like the crew of a happy ship, must be contented and the least member must feel he is doing as useful work as any.

24. Place before the public's eye the hospital motto that reads: "To relieve suffering, to promote health, and to be of genuine service to fellowmen."

MISCELLANEOUS NOTES

COTABATO

Important works accomplished.—Altho the memorandum for the celebration of the National Hospital Day was received at this office rather late, yet the solemnization was attended by quiet a big crowd at the Sunken Garden in front of the hospital. Souvenir toys were distributed to the children, and a wholesome refreshment was served to the visitors, while the orchestra was playing.

The antivariola vaccination campaign has been pushed thru the different "rancherías" and in spite of their reluctancy a total of more than one thousand vaccinations were performed during the month.

As to the yaws campaign this office has nothing to say, but the willingness of the Mohammedans as well as the pagans who are presenting themselves at the hospital for the treatment of this malady. A total of 174 were treated at the clinics of Cotabato and Pikit as can be seen on the following tables.

Clinic at Cotabato

Dates	Christians				Non-Christians			
	Male	Female	Male	Female	Male	Female	Male	Female
May 6, 1926.....			1	1	10	12	6	4
May 13, 1926.....	2	2			10	6	7	4
May 20, 1926.....	2		2		19	12	11	7
May 27, 1926.....		1	1		12	11	6	5
Total.....	4	3	4	1	51	41	30	20

Clinic at Pikit

Dates	Christians				Non-Christians			
	Male	Female	Male	Female	Male	Female	Male	Female
May 6, 1926.....	2				1	3	1	
May 20, 1926.....	1				1	2		1
May 27, 1926.....	2				2	1	1	1
Total.....	5				4	6	2	2

BOHOL

It has been often reported in my previous reports that pigs in this place are not strickly well confined in proper fences or hogsty. These animals are allowed to wander about the place and roam any where even in the heart of the towns mentioned, despite the intensive campaign works against this ill-practice which have been ceaselessly carried out by the health personnels of this service. But, no other measures also

proved so efficient in order to stop this bad habit than to capture the animals. Although not many of the cases (pig-owners) were accused during this month, yet it has been proved that those that have been brought to local courts were duly fined, and the number of pigs wandering in the streets has become relatively smaller.

BULACAN

Important events and activities.—Dr. Cristobal Santiago was acting district health officers from the 1st to 16th, while the undersigned was in Baguio attending the conference.

That Sibul as health resort is still popular due to the hot weather during the month.

The cases of tropical ulcer at Bustos were duly investigated and appropriate measure taken.

MASBATE

Important work, etc.

Yaws campaign in Calulod, Masbate.

The sanitary condition of the district is good.

One case of typhoid fever followed by death was registered in Milagros. Vaccination against typhoid was made by the President of the Sanitary Division.

ALBAY

There were given 47 conferences and lectures on health matters, excluding Catanduanes, report of which has not yet been received. Sixty-eight sanitary orders were issued and many vagrant dogs killed in the market places. Four people were bitten by supposedly mad dogs, and are now under Pasteur treatment.

The hookworm campaign was carried on in Guinobatan during the entire month. Of the 360 persons examined 307, or 85 per cent, had intestinal parasites of some kind; 82 or 23 per cent, had hookworm; 214 or 58 per cent, had ascaris; and 52, or 14 per cent, had trichuris. Of the 10 cases of hookworm remained 90 per cent were cured.

Owing to the case and death from cholera which occurred in Libon on April 22nd, the vaccination campaign has been intensified, and large numbers of people have been given anticholera injections.

ABRA

On May 27, the undersigned with Doctor Arenas went to Tayum to make investigation against Mr. Manuel Macatiag, President of the first Sanitary Division. In the afternoon of the same day Doctor Arenas returned to Manila.

During this month the health condition of Abra was "excellent." In spite, however, that two cases of dysentery were registered in Dolores but without deaths and the disease was not propagated due to the sanitary measure taken.

SORSOGON

General sanitation.—During the month the municipalities of Sorsogon, Gubat, Barcelona, Bulusan, Irosin, Bulan, Matnog, and Santa Magdalena were inspected, especial attention has been paid to sanitation of bakeries,

have been cleaned, painted, and some of which provided with sanitary facilities.

DAVAO

Important work accomplished.—The only most important work accomplished during the month was the completion of the garbage incinerator in the municipality of Davao, which was put under operation on May 26th.

CULION COLONY

Negative lepers.—Eight negative lepers were discharged on parole at Manila on May 19th on board the coastguard *Corregidor*.

Justice of the peace.—Criminal cases, 8; civil cases, 16; violation of local ordinances, 2. A total of 33 instruments were legalized.

SULU

The construction of the Emergency Health Station in the Jolo Carnival was started on May 27. Inspection around.

ZAMBOANGA

Antivariolic vaccination.—During the month of April 1,433 vaccinations were performed, 790 of which were inspected and 417 found positive. No reports of this activity for the month of May have been received from the different divisions of this district.

School-children examination.—During the month the medical examination of school children was continued in the public dispensary of the Zamboanga Hospital. This activity is conducted by the resident physician of the Zamboanga General Hospital with the assistance of the President of the Third Sanitary Division, two nurses, and two assistant sanitary inspectors.

MINDORO

The outbreak during the last week of April of suspected cases with 2 deaths of smallpox in a barrio of the municipality of Baco, kept the personnel busy during the month. An extensive antivariolic vaccination was instituted in the infected town as well as in the neighboring municipalities. This disease was under control within one week, no new cases having been reported during the month. One death was reported during the month—an old case from the infected barrio.

Physical examination of school teachers.—The examination of all school teachers in the Division of Mindoro, who are in the capital attending the Normal Institute, was performed during the month. About 200 school teachers were examined.

Antivariolic vaccination.—Because of the outbreak of some suspected cases of smallpox in the municipality of Baco, in the First Sanitary Division, an extensive vaccination campaign was conducted during the month. All the sanitary personnel in the capital were directed to proceed to the infected town to perform vaccination. Insular vaccinators from the Central Office were also requested to vaccinate the unprotected. About 3,520 individuals were given the inoculation. These vaccinations were performed in the municipalities of Puerto Galera, Baco, Calapan, Naujan, and Bulalacao.

Transfer of Doctor Dychitan.—Because of the presence of suspected cases of smallpox in the district, the district health officer was not able to attend the Health Officer's Assembly at Baguio. No delegates from the district was sent to the conference.

About the middle of the month Doctor Dychitan was called by wire to the Central Office for assignment at Isabela. He was relieved May 22, 1926, by Dr. Mariano L. Ylagan, President of the First Sanitary Division.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of May, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926 ¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	290,009
Spaniards.....	1,956
Other Europeans.....	1,126
Chinese.....	17,866
All others.....	2,186
Total.....	316,266

BY DISTRICTS

Districts	Population
No. I. MEISIC:	
1. Tondo.....	79,705
2. San Nicolas.....	28,792
3. Binondo.....	17,398
Total.....	125,895
No. II. SAMPALOC:	
4. Santa Cruz.....	51,565
5. Quiapo.....	15,658
6. San Miguel.....	4,377
7. Sampaloc.....	39,186
Total.....	110,786
No. III. PACO:	
8. Port Area.....	4,754
9. Intramuros.....	14,437
10. Ermita.....	15,931
11. Malate.....	16,259
12. Paco.....	15,830
13. Pandacan.....	5,785
14. Santa Ana.....	6,589
Total.....	79,585
Gand total.....	316,266

¹ Estimated on the basis of last figures published by the Census Office.

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, MAY, 1926**

Date	Pres- sure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	760.56	29.2	37.6	10	21.8	6	30.4	31.2
11-20.....	57.57	30.0	38.2	17	23.2	12	31.3	32.0
21-31.....	57.46	28.5	35.6	21	23.5	26	31.6	32.0

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	61.3	63.9	9	58.1	7
11-20.....	66.9	71.4	15	60.8	11
21-31.....	80.4	88.4	28	69.6	21

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	SE	2,251.5	248.5	4	79.5	8.7	4
11-20.....	SE-SW	2,304.0	319.0	14	75.3	9.2	17
21-31.....	SW	2,505.5	412.0	23	42.1	7.6	22

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	75 55	8 55	6	0.0	0
11-20.....	80 30	9 35	12	1.0	1
21-31.....	34 00	8 05	22	84.7	8

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity. —1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY OF MANILA, BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	8	6	14	52.63
Filipinos.....	454	440	894	36.32
Spaniards.....	5	1	6	36.16
Other Europeans.....	2	3	5	52.32
Chinese.....	28	25	53	34.97
All Others.....	1	1	2	10.78
Total.....	498	476	974	36.28

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I. MEISIC:							
1. Tondo.....	119	117	236	12	8	20	256
2. San Nicolas.....	34	30	64	2	4	6	70
3. Binondo.....	13	11	24	2		2	26
Total.....	166	158	324	16	12	28	352
No. II. SAMPALOC:							
4. Santa Cruz.....	60	58	118	3	4	7	125
5. Quiapo.....	12	18	30		1	1	31
6. San Miguel.....	12	9	21	1	1	2	23
7. Sampaloc.....	81	72	153	7	12	19	172
Total.....	165	157	322	11	18	29	351
No. III. PACO:							
8. Port Area.....	1		1				1
9. Intramuros.....	15	16	31		1	1	32
10. Ermita.....	27	26	53		1	1	54
11. Malate.....	41	48	89	4	2	6	95
12. Paco.....	19	18	37	3	1	4	41
13. Pandacan.....	15	3	18				18
14. Santa Ana.....	15	15	30				30
Total.....	133	126	259	7	5	12	271
Grand total.....	464	441	905	34	35	69	974

Attended by physicians, living, 274; stillbirths, 21.

Attended by midwives, living, 103; stillbirths, 0.

Attended by families, living, 597; stillbirths, 18.

**NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE
CITY OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	1		1	3.76
Filipinos.....	319	340	659	26.77
Spaniards.....		1	1	6.03
Other Europeans.....				
Chinese.....	18	5	23	15.18
All Others.....		1	1	5.39
Total and average.....	338	347	685	25.52

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA BY DISTRICTS

Districts	Male	Female	Total
No. I. MERIC:			
1. Tondo.....	123	126	249
2. San Nicolas.....	19	17	36
3. Binondo.....	10	7	17
Total.....	152	150	302
No. II. SAMPALOC:			
4. Santa Cruz.....	49	44	93
5. Quiapo.....	9	8	17
6. San Miguel.....	4	8	12
7. Sampaloc.....	62	65	127
Total.....	124	125	249
No. III. PACO:			
8. Port Area.....	1		1
9. Intramuros.....	8	10	18
10. Ermita.....	2	5	7
11. Malate.....	25	27	52
12. Paco.....	10	17	27
13. Pandacan.....	8	5	13
14. Santa Ana.....	8	8	16
Total.....	62	72	134
Grand total.....	338	347	685

**NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA,
TRANSIENTS INCLUDED**

[Stillbirths not included]

Social conditions	Male	Female
Married.....	114	109
Divorced.....		
Widowed.....	26	54
Single.....	266	220
Conditions not stated.....	1	1
Total.....	407	384
Grand total.....	791	

Stillbirths.....	39
Number of deaths with medical attendance.....	508
Number of deaths without medical attendance.....	233

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	94	72	13	10	189
1 year plus.....	48	43	2	3	96
2 years plus.....	12	16	1	.....	29
3 years plus.....	6	18	2	1	27
4 years plus.....	5	7	.....	.....	12
5 to 9 years.....	12	14	.....	.....	26
10 to 14 years.....	4	5	3	1	18
15 to 19 years.....	9	13	4	2	28
20 to 24 years.....	19	18	6	2	45
25 to 29 years.....	12	15	5	6	38
30 to 34 years.....	9	18	5	2	34
35 to 39 years.....	12	13	3	2	30
40 to 44 years.....	15	13	3	3	34
45 to 49 years.....	17	10	5	2	34
50 to 54 years.....	20	6	10	2	38
55 to 59 years.....	10	13	1	.....	24
60 to 64 years.....	9	10	3	.....	22
65 to 69 years.....	8	4	1	.....	18
70 to 74 years.....	6	6	.....	.....	12
75 to 79 years.....	4	10	.....	.....	14
80 to 84 years.....	2	10	1	1	14
85 to 89 years.....	1	7	.....	.....	8
90 to 94 years.....	1	2	.....	.....	3
95 to 99 years.....	1	1	1	.....	3
100 years and over.....	1	3	.....	.....	4
Age not stated.....	1	.....	.....	.....	1
Total.....	838	847	69	37	791

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued
 [Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
165-203	XIV. External causes													
179	Accidental burns (conflagration excepted)			1										1
180	Accidental mechanical suffocation			1										1
186	Accidental traumatism by fall			1										1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	a. Railroad accidents			1	2									3
	c. Automobile accidents			1										1
197	Homicide by firearms			1										1
198	Homicide by cutting or piercing instruments			1										1
	Total	4	1	61	36	1				3				106
	Grand total	5		97		1				3				106

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Diphtheria.....					1	1
11. Influenza:						
a. With pulmonary complica- tions specified.....					2	2
16. Dysentery:						
b. Bacillary.....					1	1
29. Tetanus:						
a. Umbilical.....				2		2
31. Tuberculosis of the respiratory system.....					1	1
32. Tuberculosis of the meninges and central nervous system.....					2	2
38. Syphilis.....	1				1	2
55. Beriberi.....		2				2
56. Rickets.....				8	27	32
62. Diseases of the thymus gland.....					6	6
71. Meningitis:					1	1
a. Simple meningitis.....					5	5
86. Diseases of the ear and of the mastoid process:						
b. Diseases of the mastoid pro- cess.....					1	1
99. Bronchitis:						
a. Acute.....					26	26
b. Chronic.....					5	5
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....					32	32
b. Capillary bronchitis.....					3	3
101. Pneumonia:						
a. Lobar.....					2	2
113. Diarrhea and enteritis.....					14	14
128. Acute nephritis.....					3	3
151. Gangrene.....					1	1
159. Congenital malformations (stillbirths not included):						
a. Congenital hydrocephalus.....	1					1
b. Congenital malformations of the heart.....	1					1
c. Others under this title.....				1		1
160. Congenital debility, icterus, and scler- ema.....	12	3	1	11	7	34
151. Premature birth; injury at birth:						
a. Premature birth (not stillborn).....	6			1		7
162. Other diseases peculiar to early in- fancy.....	1	2				3
Total.....	22	7	1	18	141	189

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	23,343
Number of rats caught by spring traps.....	2,951
Number of cage wire traps set.....	682
Number of rats caught by cage wire traps.....	2
Number and kind of baits (coconuts).....	24,025
Number of poison portions placed.....	14,131
Number of rats found poisoned.....	232
Number of rats killed by clubs and other weapons.....	849
Number of rats found dead from other causes.....	604
Total number of rats otherwise caught, found dead, or killed.....	4,688
Total number of rats sent to the laboratory for examination.....	4,688
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF MAY, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.	6	1	4	1	1	1	1	7	2	4	2	11	2
	No. 2.	1	2	2					1	1	2		3	
	No. 3.													
	No. 4.	6		4		1		1	6		5	2	11	2
	No. 5.			2							2	1	2	1
II.	No. 6.													
	No. 7.	4	2	3	1				4	2	3	1	7	3
	No. 8.													
	No. 9.			2							2		2	
	No. 10.	3							3				3	
	No. 11.	2	1	1	1				2	1	1	1	3	2
	No. 12.	1							1				1	
	No. 13.													
	No. 14.													
Grand total.		23	4	18	4	1	1	1	24	5	19	5	43	10

REMARKS:

Cases confirmed as typhoid fever.	38
Cases confirmed as paratyphoid fever.	5
By autopsy.	0
By blood culture.	0
By blood reaction.	0
By widal reaction.	5
By urine examination.	0
By feces examination.	0
By clinical symptoms.	38
Cases reported among nonresident persons not included in the table.	14
Deaths reported among nonresident persons not included in the table.	3

Typhoid Carrier—1

DISYNTERIES REPORTED DURING THE MONTH OF MAY, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths			
I.	No. 1.....	2	2	1	1		2	2		2	2		4	4		3	3		7	7
	No. 2.....	1	1										1	1		1	1		2	2
	No. 3.....																			
	No. 4.....	1	1	2	1		1	1		1	1		1	1		3	2		4	3
II.	No. 5.....																		1	1
	No. 6.....																			
	No. 7.....			2	1					1	1					3	2		3	2
	No. 8.....																			
III.	No. 9.....																			
	No. 10.....																			
	No. 11.....									1	1			1		1	1		1	1
	No. 12.....	1	1										1	1					2	2
	No. 13.....																			
	No. 14.....																			
Total.....	5	5	5	3		3	3		7	7		8	8		12	10		20	18	

REMARKS:

Anemic dysentery.....

Bacillary dysentery.....

Unspecified.....

Cases reported among non-resident persons not included in the table.....

Deaths reported among non-resident persons not included in the table.....

Dysentery Carrier—None.

3

10

7

0

0

CHOLERA REPORTED DURING THE MONTH OF MAY, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....			1	1							1	1	1	1
{No. 1.....														
{No. 2.....														
{No. 3.....														
{No. 4.....														
II.....														
{No. 5.....														
{No. 6.....														
{No. 7.....														
{No. 8.....														
{No. 9.....														
{No. 10.....														
III.....														
{No. 11.....														
{No. 12.....														
{No. 13.....														
{No. 14.....														
Grand total.....			1	1							1	1	1	1

REMARKS:

One nonresident case from Novaliches, Calocan, Rizal not included in the table brought to Manila for treatment died in the hospital.
 Cholera Carrier—16

DIPHTHERIA REPORTED DURING THE MONTH OF MAY, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.													
	No. 2.													
	No. 3.													
	No. 4.	1		1					1	1	1		2	1
II.	No. 5.		1										1	
	No. 6.		1											
	No. 7.	3	2						3	2			3	2
	No. 8.													
III.	No. 9.													
	No. 10.													
	No. 11.													
	No. 12.		2								2		2	
	No. 13.													
	No. 14.													
Grand total.		4	3	4					4	3	4		8	3

REMARKS:

Cases reported among nonresident persons not included in the table.

Deaths reported among nonresident persons not included in the table.

5

1

Diphtheria Carrier—13

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF MAY, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	27	5	3	3
Varicella.....	11	17		
Varioloid.....				
Smallpox.....				
Measles.....	13	8	3	1
Whooping cough.....	1		1	
Influenza.....	18	6	2	3
Bubonic plague.....				
Encephalitis lethargica.....		2		2
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	137	113	71	64
Tuberculosis of all forms.....	2	10	2	8
Beriberi, infantile.....	16	13	16	13
Beriberi, adult.....	1	3	1	3

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	7	2		
Varicella.....	4	1		
Varioloid.....				
Smallpox.....				
Measles.....	1			
Whooping cough.....				
Influenza.....				
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	1	1		1
Pulmonary tuberculosis.....	24	14	9	4
Tuberculosis of all forms.....	2	4	2	1
Beriberi, infantile.....	2	1	2	1
Beriberi, adult.....		1		1

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF MAY, 1926**

Sera and vaccines	On hand May 1, 1926	Received during the month	Total to be accounted for	Distribut- ed during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	430,000	500,000	930,000	400,000	530,000
Anti-dysenteric serum (ampoules).....	89	100	189	40	149
Anti-tetanic serum (units).....	685,000	141,000	826,000	541,000	285,000
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	52,080	90,000	142,080	117,900	24,180
Dried vaccine virus (units).....	74,900	100,000	174,900	95,700	79,200
Fresh vaccine virus (units).....	89,600	200,000	289,600	183,600	106,000
Gonococcus vaccine (ampoules).....		100	100	100	
Mixed typhoid-cholera vaccine (c.c.).....	18,000	138,000	156,000	135,600	20,400
Normal horse serum (ampoules).....					
Typhoid vaccine (c.c.).....	6,710	6,000	12,710	7,020	5,690

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated						Total		
		Total vaccinations	Previously vaccinated		Unsuccessful	Under 1 year		1 to 4 years		5 years and over			
			Never	Successful		Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1.	Tondo.	436	192	204	40	187	22	11	2	2	2	200	24
	San Nicolas.	262	107	129	26	67	4	9	1	4	4	80	6
	Binondo.	175	71	92	12	22		3				25	
	Santa Cruz.	191	125	27	39	148	5	15	1	9	9	172	15
	Quiapo.	123	83	17	23	27		7		3	3	37	
No. 2.	San Miguel.	65	38	9	18	18		15	1	1	2	34	2
	Sampaloc.	210	147	32	31	158	9	16	10	12	184	21	
	Port Area.												
	Intramuros.	173	27	145	7	15		1			16		
	Ermita.	851	20	824	1	4		3	1	3	8		
No. 3.	Malate.	1,147	66	1,065	16	105	8	11		3	5	119	13
	Paco.	427	41	379	7	62	2	9		3	3	74	5
	Pandacan.	180	6	174		13		2		1	1	16	
	Santa Ana.	155	13	141	1	15		1		1	17		
	Total	4,395	936	3,238	221	841	50	103	4	38	37	982	91

Vaccine Virus:

Received	16,600
Used	8,400
Remained	8,200

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA, DURING THE MONTH OF MAY, 1926¹

Health districts	Municipal districts	Number of injections made in—												Total number of injections					
		Adults						Children						First		Second		Third	
		First injections		Second injections		Third injections		First injections		Second injections		Third injections							
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.		
No. 1	Tondo	1	506		408		371		287		212		266	1	793		620		637
	San Nicolas		557		546		480		249		290		165		806		836		846
	Rinondo		523		488		372		43		15		4		566		503		376
	Santa Cruz		559		561		452		218		219		172		777		780		624
	Quiapo		54		50		32		34		26		19		88		76		51
No. 2	San Miguel		374		354		258		308		263		185		682		617		443
	Sampaloc		517		495		483		371		362		350		888		857		833
	Port Area		33		9		2								33		9		2
	Intramuros	96	914	50	597	54	595	3	345	17	267	4	263	113	1,259	53	864	58	858
	Ermita		38		25		17		11		7		6		49		32		23
No. 3	Malate		25		31		25		33		24		20		64		49		45
	Paco		365		363		298		310		292		268		675		655		566
	Pandacan																		
	Santa Ana		71		69		59		40		36		31		111		105		90
	Total	97	4,542	50	3,990	54	3,444	3	2,249	3	2,013	4	1,749	114	6,791	53	6,003	58	5,193

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine used for the third injections.

V, in persons never vaccinated before; R, revaccinations.

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	1,683	437	482	814
Agusan.....	2,384	422	1,428	539
Albay.....	32,510	6,091	16,650	9,769
Antique.....	30,834	5,891	17,691	7,252
Bataan.....	4,617	1,590	1,549	1,478
Batanes.....	908	50	222	636
Batangas.....	9,450	2,713	2,108	4,629
Bohol.....	14,507	2,644	5,454	6,409
Bukidnon.....	1,695	403	582	710
Bulacan.....	31,090	4,405	24,033	2,652
Cagayan.....	5,916	1,098	2,736	2,082
Camarines Norte.....	1,527	648	464	415
Camarines Sur.....	44,962	5,705	31,198	7,959
Capiz.....	56,327	14,141	33,486	8,700
Catanduanes.....	6,367	1,163	1,529	3,675
Carite.....	8,628	2,151	3,530	2,947
Cebu.....	26,971	7,984	7,843	11,144
Cotabato.....	7,533	2,513	2,161	2,859
Davao.....	1,699	559	400	740
Ilocos Norte.....	12,105	3,278	3,521	5,806
Ilocos Sur.....	10,858	2,547	1,387	6,474
Iloilo.....	13,739	6,038	2,898	4,813
Isabela.....	38,217	7,908	26,207	4,102
Laguna.....	10,186	2,728	5,053	2,405
Lanao.....	1,603	565	585	453
La Union.....	9,410	1,730	946	6,734
Leyte.....	17,456	6,178	1,260	10,018
Marinduque.....	2,806	584	524	1,698
Masbate.....	3,399	1,090	594	1,715
Mindoro.....	26,627	4,184	18,624	3,719
Misamis.....	28,804	4,627	14,990	8,687
Mountain Province.....	2,502	931	857	714
Nueva Ecija.....	11,999	3,620	2,568	5,811
Nueva Vizcaya.....	8,135	763	5,899	1,973
Occidental Negros.....	12,532	6,204	3,404	2,924
Oriental Negros.....	11,155	2,844	3,843	4,468
Palawan.....	471	116	117	238
Pampanga.....	13,973	2,542	5,945	5,486
Pangasinan.....	20,955	6,198	4,732	10,025
Rizal.....	28,372	4,211	21,378	2,783
Romblon.....	39,553	7,271	25,280	7,002
Samar.....	6,500	2,532	135	3,833
Sorsogon.....	3,075	1,843	477	755
Sulu.....	12,890	3,636	4,242	5,112
Surigao.....	8,871	1,782	5,281	1,808
Tarlac.....	8,991	3,584	2,650	2,757
Tayabas.....	3,297	953	917	1,427
Zambales.....	4,295	908	2,203	1,184
Zamboanga.....				
Total.....	661,284	151,998	319,453	189,833

¹ Incomplete; reports from other provinces not yet received.

Vaccinations performed by the vaccinating parties included in the above table.

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926** ¹—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	88	47	321	142	508	384	917	571
Agusan.....	65	14	99	49	306	272	470	335
Albay.....	1,827	612	4,140	1,102	9,030	4,454	14,997	6,168
Antique.....	1,229	251	2,956	1,538	6,623	11,167	10,808	12,956
Bataan.....	865	184	1,561	662	640	476	3,066	1,272
Batanes.....	47	25	130	71	384	199	561	295
Batangas.....	943	136	1,807	569	2,438	1,616	5,188	2,321
Boloh.....	1,645	373	2,165	918	4,385	3,659	8,095	4,950
Bukidnon.....	29	7	64	28	441	146	534	181
Bulacan.....	1,842	174	3,074	995	11,698	10,141	16,614	11,810
Cagayan.....	412	38	888	166	2,554	1,370	3,854	1,574
Camarines Norte.....	132	21	220	53	305	86	657	160
Camarines Sur.....	1,540	242	4,399	788	15,344	6,225	21,283	7,255
Capiz.....	2,446	397	5,479	951	23,219	9,162	31,144	10,510
Catanduanes.....	571	306	605	355	1,025	687	2,201	1,348
Cavite.....	1,693	158	1,413	314	3,300	1,690	6,406	2,162
Cebu.....	1,748	672	1,517	573	2,754	2,355	6,019	3,600
Cotabato.....	110	65	437	353	1,535	1,211	2,082	1,639
Davao.....	45	23	171	95	598	407	814	525
Ilocos Norte.....	1,415	239	2,566	622	2,920	2,785	6,901	3,646
Ilocos Sur.....	1,861	355	2,135	795	1,769	1,575	5,765	2,725
Iloilo.....	1,084	149	2,823	444	3,889	1,630	7,296	2,223
Isabela.....	814	105	3,527	678	11,108	6,529	15,449	7,312
Laguna.....	1,285	219	1,200	579	2,179	3,491	4,664	4,289
Lanao.....	53	11	69	28	107	96	229	135
La Union.....	739	227	1,094	923	1,344	1,870	3,177	3,020
Leyte.....	1,075	378	2,461	854	3,870	1,581	7,406	2,813
Marinduque.....	179	56	577	200	803	381	1,559	637
Masbate.....	249	84	428	291	765	643	1,442	1,018
Mindoro.....	531	36	2,371	208	11,108	5,109	14,010	5,353
Misamis.....	541	75	2,525	432	10,207	5,541	13,273	6,048
Mountain Province.....	19	5	180	163	702	280	901	448
Nueva Ecija.....	1,510	228	2,809	756	2,794	2,101	7,113	3,085
Nueva Viscaya.....	803	12	1,172	374	4,322	3,963	5,797	4,349
Occidental Negros.....	1,743	321	2,297	666	3,432	1,198	7,472	2,185
Oriental Negros.....	915	308	1,689	708	3,088	1,775	5,692	2,786
Palawan.....	33	7	53	12	229	151	315	170
Pampanga.....	728	204	1,151	365	2,700	1,686	4,579	2,255
Pangasinan.....	2,948	442	4,344	1,104	5,240	4,180	12,532	5,726
Rizal.....	1,285	194	2,446	1,047	4,672	8,007	8,403	9,248
Romblon.....								
Samar.....	965	234	4,953	821	15,070	3,258	20,988	4,313
Sorogon.....	395	119	969	353	575	247	1,939	719
Sulu.....	140	31	494	129	1,042	477	1,676	637
Surigao.....	288	103	1,138	493	3,732	3,272	5,158	3,868
Tarlac.....	966	278	1,564	526	2,231	2,535	4,761	3,339
Tayabas.....	1,035	204	2,014	415	3,127	1,562	6,176	2,181
Zambales.....	482	126	534	342	655	1,095	1,671	1,563
Zamboanga.....	251	97	264	175	561	865	1,076	1,137
Total.....	41,009	8,537	80,793	24,235	191,328	123,590	313,130	156,362

¹ Incomplete; reports from other provinces not yet received.
Vaccinations performed by the vaccinating parties included in the above table.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Aibay.....	19,492			19,492
Antique.....	9,077			9,077
Bataan.....	17,866	1,264		19,130
Batanes.....				
Batangas.....	118,498			118,498
Bohol.....				
Bukidnon.....	158	150		308
Bulacan.....	29,103	416		29,519
Cagayan.....				
Camarines Norte.....	101	57		158
Camarines Sur.....	6,936			6,936
Capiz.....	91,946			91,946
Catanduanes.....	2,495	271		2,766
Cavite.....	20,776			20,776
Cebu.....	83	22		105
Cotabato.....				
Davao.....	922	693		1,615
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	1,720	796		2,516
Isabela.....				
Laguna.....	100,504	14,331	1,164	115,999
Lanao.....				
La Union.....	3,953	1,458		5,411
Leyte.....	8,872	3,991		12,863
Marinduque.....	47,758	40,345	5,087	93,190
Masbate.....	1,122	735		1,857
Mindoro.....	27,986	3,609	220	31,715
Mountain Province.....				
Nueva Ecija.....	33,942			33,942
Nueva Vizcaya.....				
Oriental Negros.....				
Pampanga.....	138,024	3,467		141,491
Pangasinan.....	244,519			244,519
Rizal.....	137,606			137,606
Romblon.....	339			339
Sorsogon.....	9	34		43
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zamboanga.....				
Total.....	1,072,110	71,539	6,471	1,150,120

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	105	90	52	247
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	153	94	10	257
Bohol.....				
Bukidnon.....				
Bulacan.....				
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....				
Catanduanes.....	487	180		667
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....				
Laguna.....				
Lanao.....				
La Union.....	1,188	137	38	1,363
Leyte.....				
Marinduque.....				
Masbate.....	664	166		830
Mindoro.....				
Mountain Province.....				
Nueva Ecija.....				
Nueva Vizcaya.....				
Oriental Negros.....				
Pampanga.....	177	111	14	302
Pangasinan.....	21	21		42
Ribal.....				
Romblon.....				
Sorsogon.....				
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zamboanga.....				
Total.....	2,795	799	114	3,708

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA) VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹

Provinces	First injections	Second injections	Third injections	Total
Abra.....	1,263	1,952		3,215
Agusan.....	4,468	1,569		6,037
Albay.....				
Antique.....				
Bataan.....	189	96		285
Batanes.....	127	84	68	279
Batangas.....				
Bohol.....	954	907		1,861
Bukidnon.....				
Bulacan.....				
Cagayan.....	869	197		566
Camarines Norte.....	238	207		445
Camarines Sur.....	2,638	1,059		3,697
Capiz.....	27,163			27,163
Catanduanes.....				
Cavite.....				
Cebu.....	1,340	16		1,356
Cotabato.....	211	30		241
Davao.....				
Ilocos Norte.....	2,228	1,177	1,142	4,547
Ilocos Sur.....	380	520		900
Iloilo.....	14,265	3,382		17,647
Isabela.....	107	20		127
Laguna.....				
Lanao.....	2,277	413		2,690
La Union.....	213	87	81	381
Leyte.....				
Marinduque.....	4,605	14,994		19,599
Maabate.....	2,763	565		3,328
Mindoro.....				
Mountain Province.....	148			148
Nueva Ecija.....				
Nueva Vizcaya.....				
Oriental Negros.....	449	289		738
Pampanga.....	1,764	614		2,378
Pangasinan.....	90	57		147
Rizal.....	46	41		87
Romblon.....				
Sorsogon.....	326			326
Sulu.....				
Surigao.....				
Tarlac.....	20,654	10,103		30,757
Tayabas.....	13,218	4,481		17,699
Zamboanga.....	2,241	76	15	2,332
Total.....	104,734	42,936	1,256	148,926

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF MAY, 1926

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF MAY, 1926

Province and town	Cases	Deaths
Davao:		
Rabnaga.....	1	0
Total.....	1	0

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF MAY, 1926**

	Health districts			
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	Total
Orders pending, May 1, 1926:				
Minor.....	115	122	90	327
Sewer.....	23	57	6	86
Vacating.....	8	13		21
Filling.....	10	34	14	58
Total.....	156	226	110	492
Orders issued during the month:				
Minor.....	13	12	8	33
Sewer.....			1	1
Vacating.....				
Filling.....				
Total.....	13	12	9	34
Orders completed during the month:				
Minor.....	11	20	12	43
Sewer.....		1		1
Vacating.....				
Filling.....				
Total.....	11	21	12	44
Orders cancelled during the month:				
Minor.....			1	1
Sewer.....				
Vacating.....				
Filling.....				
Total.....			1	1
Orders pending, May 31, 1926:				
Minor.....	117	114	85	316
Sewer.....	23	56	7	86
Vacating.....	8	13		21
Filling.....	10	34	14	58
Total.....	158	217	106	481
Strong material plans approved:				
New buildings including additions and alterations.....	24	41	49	114
Permits for minor building constructions:				
Approved.....	29	37	33	99
Disapproved.....	2	3	5	10
New buildings completed.....	18	24	37	79
Permits for light and mixed material constructions:				
Approved.....	18	43	85	146
Disapproved.....	1	6	33	40
Prosecutions:				
Convictions.....				
Dismissals.....	2	2	2	6
Amount of Fines.....				
Plumbing permits issued.....	63	61	66	190
Plumbing projects completed.....	33	36	58	127
Premises connected to the Sanitary sewer to April 30, 1926.....	2,480	4,212	579	7,271
Connected during the month.....	3	4	9	16
Total.....	2,483	4,216	588	7,287

NOTE.—Meisic includes Tondo, San Nicolas, and Binondo. Sampaloc includes Santa Cruz, Quiapo, and San Miguel. Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

JUNE, 1926

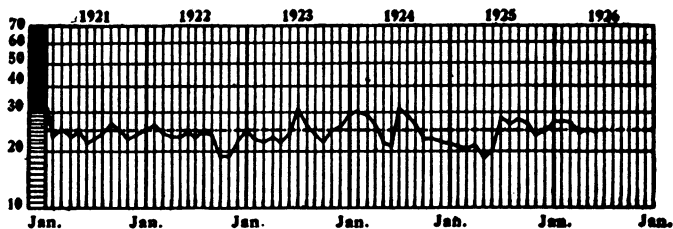
No. 6

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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PHILIPPINE HEALTH SERVICE

VOL. VI

JUNE, 1926

No. 6

LEPROSY AS A CAUSE OF DEATH

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[Abstract]

According to the findings at autopsy in this colony leprosy *per se* is seldom the cause of death among lepers. This has been shown in previous reports¹ dealing with the causes of death as a whole. The present paper deals with the findings in cases in which death has been ascribed to leprosy. In a series of 500 consecutive autopsies, only 18 deaths were so recorded. Of these, 12 were diagnosed as leprous cachexia, 4 as lepra reaction, 1 as acute exfoliative leprotic dermatitis, and 1 as obstructive leprotic laryngitis.

Ordinarily, lepers die of secondary or complicating conditions. The former vary within a wide range from a vital depression, without clear-cut or marked structural changes to extensive amyloidosis and nephritis. Of the complicating conditions tuberculosis is by far the most common though others are not infrequent, some of which are indirectly dependent on the lesions caused by leprosy itself. These conditions differ as re-

¹ PINEDA, ELOY V. Pathological Survey of the Causes of Death in Lepers at Culion. J. P. I. M. A., 1924, IV, 5, 169-178.

LARA, C. B., DE VERA, B., SAMSON, J. G., AND EUBANAS, F. Chief Causes of Death Among Lepers at the Culion Leper Colony. J. P. I. M. A., 1924, 8, 289-306.

guards the apparent extent of dependence on the primary infection, that is their apparent freedom from other concurrent causes. For these reasons they, and particularly tuberculosis may be looked upon more as complications than immediate sequelæ, though with the full realization of the importance of the leprosy in their development or acceleration.

In the few cases in which leprosy itself is the cause of death, this is brought about two ways: (1) leprosy *per se* with no apparent secondary conditions; (2) leprosy giving rise to accidents that are the immediate cause. In both of these ways, however, the mechanism is actually obscure since leprotic changes have not, in our experience, been found in the vital organs to an extent sufficient to be considered the cause of death.

In some cases in which leprosy without any apparent secondary conditions causes death, this is brought about by a prolonged or repeated attacks of lepra fever or reaction. By this is meant a rather ill-defined phase in the course of leprosy, with or without fever, characterized by exacerbation of old cutaneous lesions with or without the appearance of new ones such as macules, papules, and infiltrations that may later subside or remain as permanent lesions. Other symptoms may accompany this reaction such as malaise, neuritis and general muscular pains. The nature of this reaction is not well understood. While some consider it due to a temporary toxemia, others are of the opinion that the disturbance is of anaphylactic nature. The actual exciting cause may be anything that lowers the resistance of the body or treatment with the ethyl esters; this exciting factor is not always determinable. In acute cases of this nature, the toxic or anaphylactic condition is very manifest both in symptoms and anatomical findings. Bacilli may be found in the circulating blood. Such reactions are ordinarily slight or infrequent and do comparatively little permanent damage, but occasionally the reaction, and the apparent toxic condition, is so marked that death is comparatively rapid.

Cases illustrating death caused by lepra reaction was given, together with the autopsy findings, in the original paper, but cannot well be given in an abstract form.

Another type of case in which leprosy is supposed to be the cause of death is the so-called cases of "leptous cachexia." While this condition is usually ushered in by one or several attacks of lepra reaction, the patient survives these and passes on into a state of gradual progressive cachexia, unaccompanied

by any acute manifestations in the period before he quietly passes away. A case is described illustrating this condition.

Death in these cases is evidently due to very slow progressive depression indicated by cachexia, anemia, and exhaustion. The explanation in such cases seems to lie in some subtle metabolic derangement resulting from the long continued leprous infection, not necessarily accompanied at least in the later stages,—by lepra fever, which derangement is not ascribable to any discernible structural pathology.

The condition in which death is brought about by accidents caused by leprosy *per se* is also illustrated by a case of asphyxia caused by vegetative growth of pure leprous granulation tissue occurring in the larynx.

THE PREVALENCE OF YAWS AND ITS CONTROL AMONG THE MOHAMMEDANS IN MINDANAO AND SULU

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The literature on yaws is so voluminous that it is hardly possible to state anything new. In this paper, my object is to relate a few of my experiences on the prevalence of yaws and its control among the Mohammedans in Mindanao and sulu in connection with the anti-yaws campaign in Jolo in 1923.

In this campaign, the Health Service came to play no little rôle in the solution of the so-called Moro Problem. It is the Health Service that brings the Mohammedans to a closer relation to their Christian brothers. To mention one of the many instances, illustrative of this fact, we may recall that about nine years ago, the Moros were antagonistic to medical or surgical treatment; but now even those who live far in the mountains come for treatment. Certain communities have even petitioned the Service for either hospitals or dispensaries and have insisted upon a more liberal supply of medicines in their respective districts.

If the Health Service has gained even the friendship and confidence of the Mohammedans, it is because of the good work that it has accomplished among them. This fact is especially manifest in the treatment of yaws, because it demonstrates to them the real value and effectiveness of modern scientific treatment. Thru this means, the fear they harbor because of ignorance, their religious prejudices, and their hatred of their Christian brothers are fast disappearing.

In order to maintain those good relations already well established among the inhabitants of this region and in order to carry out permanent sanitary improvements and enhance the friendship of our Mohammedan brothers, the Health Service must continue the campaign, especially for the eradication of yaws as well as the establishment of more dispensaries.

HISTORICAL NOTES

It is asserted that yaws was known to the ancients and has had its beginning in Africa, and the generic term used in the

Bible was "lepra," according to Goodman.(1) In Mindanao and Sulu, yaws has been endemic for many generations, and it is said that the disease was brought into the Philippines by the Moros who settled in Mindanao and Sulu incident to slavery-trading with the Celebes.

Prior to the American Occupation of the Philippines, there was much dread of the disease. According to Wooley,(2) "lepra" was the name taught to the Igorots by the Spaniards in Northern Luzon. It was believed, therefore, that every case of yaws was leprosy, so that a person suffering from this disease was entirely barred from the rest of the family.

The disease is endemic in certain parts of the Islands. In Mindanao and Sulu, it is especially prevalent among the Non-Christian population in Cotabato, Davao, Agusan, Sulu, and Lanao and certain parts of Zamboanga. It is known by different names in the Philippines. In Cotabato, it is called "Bacatao" (meaning ulcer), "Ibong" in Davao, "Upang" in Sulu, "Tabucao" in the Visayas, and "Bubas" in Luzon.

NATURE OF THE DISEASE

Yaws is contagious disease of the tropics caused by a spirochete described in 1905, by Castellani, while working in Ceylon, as *Tropenoma pertenue*. Because of the many deformities it produces, the disease is crippling and incapacitates healthy individuals in earning their livelihood. It is very objectionable, obnoxious, and loathsome to the patients. This disease adds to the misery of the laboring class and the economic loss burden of the community.

CONTAGION AND TRANSMISSION

The fact that the majority of the primary lesions in our series were located on the exposed parts, especially on the lower extremities, suggests that the transmission is thru traumatism or abrasion. Several of our cases gave the history of having contracted the disease by flies, but we do not have enough data to prove this assertion. However, Sellards,(3) Goodman,(1) Wood,(19) and Bahr believe that the disease may be transmitted by blood-sucking insects, as are other spirochetel diseases, such as relapsing fever. This theory was proved experimentally.

It may possibly be disseminated by mosquitoes, as the Mohammedans are in the habit of sleeping without mosquito-nets. Many of the "Tao-sug" (the Sulu people) use thick mattresses, which very often are heavily with bed-bugs and head-lice. This

fact may be considered a contributory factor in the transmission of the disease.

We have, however, sufficient proof to show that practically all our cases acquired the disease by direct contact either with their companions or relatives, because more than one case has been registered in the same family. We have found that of the 17 persons living in the same house, four acquired the disease; in a house of 10 persons, three contracted it; and in another house of eight persons, two were infected. The number of persons infected varies from one to eight cases in one household. There was neither hereditary nor sexual transmission observed in our cases, for no primary lesion was found in the genitalia.

OCCURRENCE

Our observation of the distribution of yaws in Mindanao and Sulu, as may be seen on Chart I, is contrary to the findings of my former teachers, Professors Gutierrez(6) and Guerrero(5) in the provinces near Manila, and that of McCharthy in Chindwin upper Burma, where the disease according to them is more prevalent among the inhabitants of the towns bordering the sea, swamps, and rivers. Gabino Gonzaga(17) relates that in Brazil, 60 per cent. of the rural population and 15 per cent. in the towns are affected, while the seacoast is almost unaffected.

TABLE I.—*Occurrence of yaws in Sulu, 1919–1923*

Municipal districts	Population	Habitats			Incidence to each 1,000 population
		Interior	Seacoast	Total	
Jolo.....	5,810	372	183	555	95
Parang.....	15,467	390	201	591	38
Maimbung.....	8,085	200	181	381	47
Indanan.....	(?)	252	80	332	.....
Tawi-Tawi.....	21,993	50	126	176	8.04
Cagayan de Sulu.....	5,193	20	10	30	59
Kulay-kulay.....	6,882	20	10	30	43
Siasi.....	15,625	13	12	25	16
Cambing.....	1,500	14	20	34	22
Pata.....	6,855	9	8	17	24
Tulayan.....	1,000	0	4	4	40
Banlug.....	14,592	3	2	5	34
Total.....	103,002	1,343	837	2,180	.....

Of the 2,180 cases treated in Sulu, as may be seen on Table I, 1,343 cases (or 62 per cent.) came from the interior towns about 20 kilometers from the sea, while 837 (or 38 per cent.) were found in towns bordering the sea. In Davao, of the 1,112 cases treated, 545 cases (or 48 per cent.) came from the interior towns, while 587 (or 52 per cent.) were from towns bordering the sea. The same observation was also true in Cotabato and

Zamboanga. Clapier(8) found the disease more common the further the villages were removed from the river or their tributaries in the basin of Middle Kongo and Middle and Lower Oubangui River.

We have found that yaws in Sulu is more frequent in the lowlands than in the highlands. According to the observations of Goodman(1) in Ceylon, yaws is common in the lowlands and

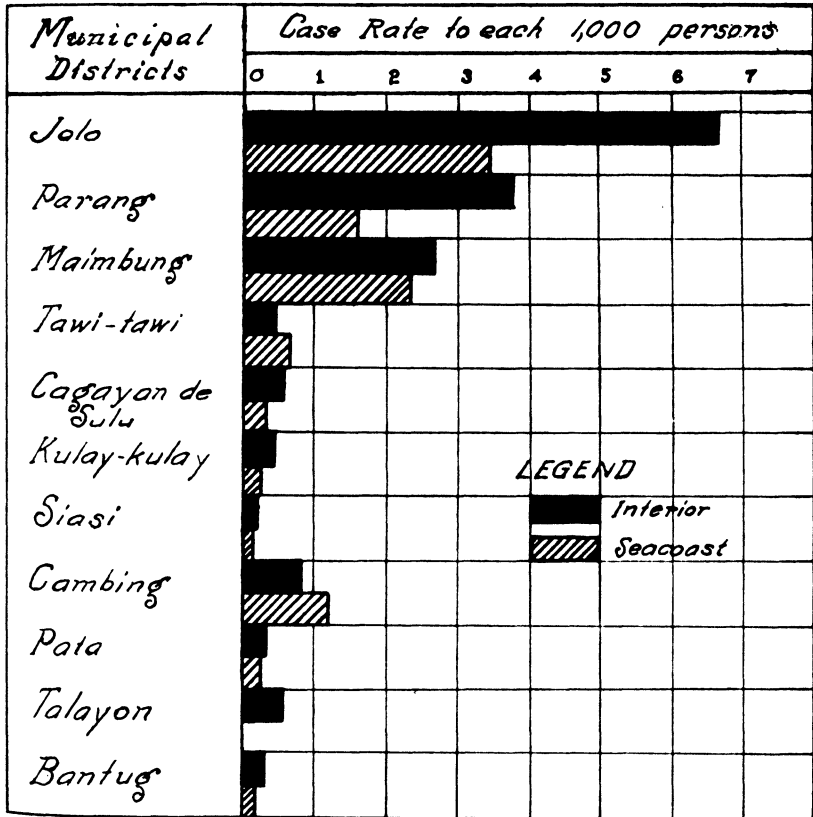


Chart I.—Diagram showing the comparative distribution of the inhabitants on the seacoast and interior towns

rare or even non-existent in towns 800 feet above sea level. Sel-lards(10) believed that those cases which he found in the mountain province in northern Luzon had probably contracted the disease during their visits in the lowlands where it is prevalent.

INFLUENCE OF ECONOMIC AND SOCIAL CONDITIONS

It is very difficult to determine the influence of the economic status on the incidence of this disease among the Mohammedans,

because the poor as well as the rich do not observe the rules of personal hygiene and the sanitation of their homes and surroundings. However, it has been observed that the disease is very common among the poor. Practically 90 per cent, of the Suluanos treated belong to the poor class. We, however, have treated several children of influential "datu," "hadji," and well-to-do Mohammedan groups.

Poverty is not the main factor responsible for its prevalence among the poor. It is customary, among certain classes of the Mohammedans, not to change their clothing, no matter how dirty, until they are torn or worn out. I have known instances in which individuals had not taken a bath for months. Their dwellings are, indeed, filthy for they have never been cleaned and their beddings have never been changed. These unhygienic conditions of the Moro homes and their community undoubtedly favor to a great extent the prevalence of this disease among them.

It has been noted that few cases of the "Budjangs" (Virgins) have been registered. This anomaly is due to the fact that these "Budjangs" live as secluded life and very rarely take part in the management of their homes and society is unknown to them. There is still another reason, which may possibly contribute to the fewer number of cases in this particular class, and that is their modesty and reluctant to be treated, as they dislike to have their arms handled and prepared for injections, altho this custom is now fast disappearing.

SEX-INCIDENCES

Based on our findings as shown in Chart II, sex seems to have some influence upon the incidence of this disease. In Table II, cases are grouped according to sex.

TABLE II.—*Relation of sex to yaws*

Municipal	Male	Female	Total
Jolo.....	354	201	555
Parang.....	374	217	594
Maimbung.....	238	143	381
Indanan.....	221	111	332
Tawi-Tawi.....	100	76	176
Cagayan de Sulu.....	20	10	30
Kulay-kulay.....	19	11	30
Siasi.....	10	15	25
Cambing.....	19	15	34
Pata.....	13	4	17
Tulayan.....	3	1	4
Banting.....	3	2	5
Total.....	1,374	806	2,180

Of the 2,180 cases treated in Sulu, 1,374 (or 63 per cent.) were males, and 806 (or 37 per cent.) were females. Out of the 1,112 cases treated in Davao, 768 (or 69 per cent.) were males, and 343 (or 38 per cent.) were females. Of the 2,217 cases treated in Cotabato, 1,656 (or 75 per cent.) were males, and 561 (or 25 per cent.) were females. Out of 257 cases treated in Zamboanga, 179 (or 70 per cent.) were males, and 78 (or 30 per cent.) were females. In the anti-yaws campaign conducted in Parañaque (21), Rizal, in 1921, the disease was also found more frequently in males than in females.

The fewer number discovered in females in Mindanao may be attributed to the native customs. Local custom among the Mohammedans, in their practice of keeping women at home and restricting their outside activities, may also contribute to the fewer

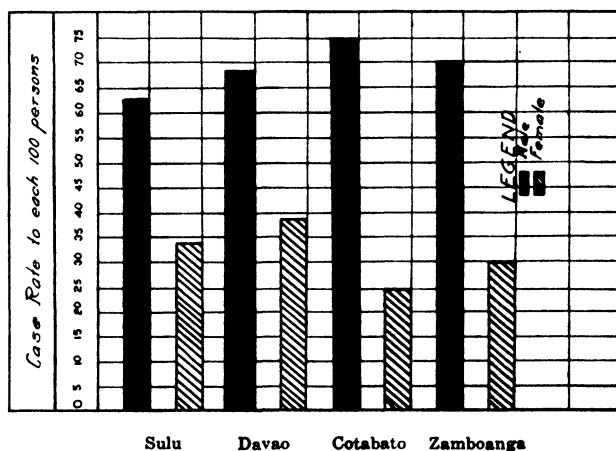


Chart II.—Comparative distribution of sex by provinces

number of females registered. We did not have occasion to observe even a single case of pregnant women infected with the disease. It is, however, believed that yaws will undoubtedly infect pregnant women as well.

AGE-INCIDENCE

The disease is common among children, as may be seen in Chart III and Table III. Of the 2,180 cases in Sulu, 1,377 (or 63 per cent.) were children less than 10 years old. In Cotabato out of 2,217 cases treated, 654 (or 29 per cent.) were children; and of the 257 in Zamboanga, 113, or 44 per cent were children. Clapier found that children in the forest villages are more frequently attacked than are the adults. In the anti-yaws

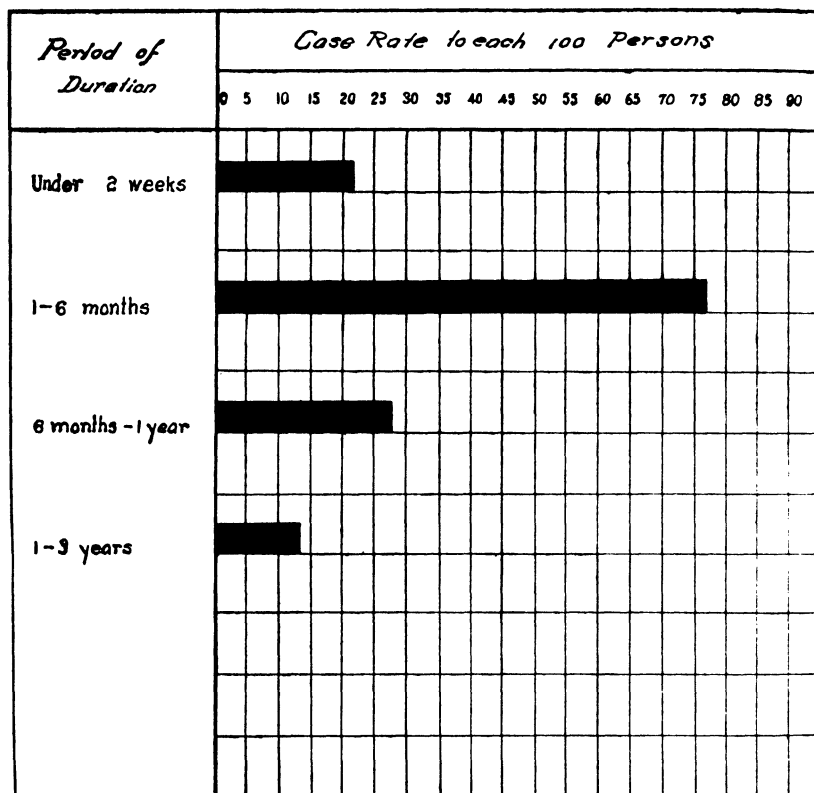


Chart IV.—Duration of illness

campaign in Parañaque, Rizal, the disease was found more frequently in children than in adults. But the foregoing findings are contrary to the observation of Dr. De Jesus in Davao, in which the disease is more frequent among adults than in children. In his series of 1,112 cases, 856 (or 75 per cent.) were adults, while 256 (or only 23 per cent.) were children.

TABLE II.—Age in relation to yaws

Age	Total	Per cent
Less than 6 months.....	9	41
6 months to 1 year.....	98	4.41
1 year to 5 years.....	584	26.79
5 years to 10 years.....	686	31.47
10 years to 15 years.....	355	16.28
15 years to 20 years.....	110	5.05
20 years to 30 years.....	150	6.89
30 years to 40 years.....	87	3.99
40 years to 50 years.....	29	1.33
50 years to 60 years.....	48	2.21
60 years to 70 years.....	24	1.09
Total.....	2,180	.....

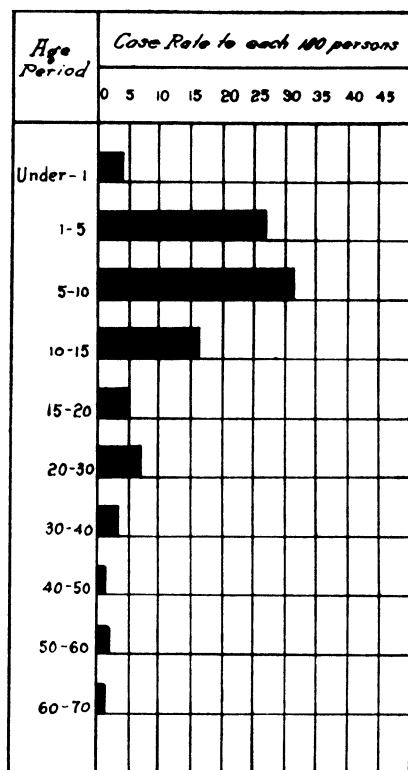


Chart III.—Age incidence

INFLUENCE OF MORO BELIEFS AS COMPARED WITH OTHER COUNTRIES

The Moros believe that it is natural for their children to have yaws. They consider it as measles from which they cannot escape, so much so that they are not afraid to come in contact with those who have the disease. In Sulu, it was believed that the eruptions beautify the face when the crusts fall off, leaving the face smooth. The belief, however, disappeared when yaws became obnoxious and cause deformities. In Yamosa, Dominican Republic, according to Sellards, the parents freely exposed their children to the disease with the belief that the sequelae, especially the clavus, are likely to be less severe when the disease develops during infancy. In French Kongo, according to Clapier, the natives consider the eruption of yaws in the younger generation as natural as the eruption of teeth. In Fiji, according to Daniels, the parents inoculate their children with the disease.

TIME ELAPSING FROM EXPORTS TO FIRST STAGE

It is difficult among the Mahomedans in Sulu to determine the time elapsing from exposure to the first stage, and from the first stage to the second and to the third stage, in view of their ignorance and total indifference to their past ailment. A Mohammedan patient does not bother himself with recollecting past ailments and is usually undependable in giving his past history. He usually does not know the length of time since he contracted the disease and is even ignorant of his age. We have, however, ascertained that of the 170 cases treated in Sulu, in which the time was recorded, the minimum period of incubation was two weeks and the maximum was three years. In the anti-yaws campaign in Parañaque, Rizal, the period of incubation found was one month as minimum and one year as maximum. These periods are too long as compared with the finding of Castellani, who gives two to four weeks as the duration of the incubation period.

Out of 117 cases in which the time was recorded, two weeks were found as the minimum length from the first to the second stage, and two years as the maximum. We could not get definite data on the time that elapsed from the second to the third stage.

LOCATION OF PRIMARY LESIONS

The primary lesions are usually found on exposed parts. The axilla, nasal septum, ear, and scalp are infrequent sites in our cases.

Of the 333 cases, in which the location of lesions has been recorded, the primary lesions in 240 cases were on lower extremities, 225 cases were below the knee, 34 on upper extremities, eight around the mouth, and seven on the shoulder. With the exception of the genital organs, there was no portion of the body which is not attacked by the disease in the primary stage. In the secondary stage, however, even the genital organs are sometimes affected. I have seen three cases of secondary eruptions on the prepuce. The sites of predilection in this stage, besides the exposed parts, are the muco-cutaneous orifices, such as mouth and perineum. The mucous membranes are not ordinarily affected. The hair is not attacked and alopecia has not been observed in our cases.

DURATION OF ILLNESS

The same difficulty has been met in ascertaining the duration of illness, as was experienced in determining the time which

elapsed from the first to the second stage of the disease. In a series of 232 cases, in which the time has been recorded in Sulu, the minimum duration of illness was one month and the maximum was 20 years, thereby giving an average duration of 9.5 years; but Moss and Bigelow⁽⁹⁾ found in the Dominican Republic that the average duration was 13.5 years. The great majority of our cases is of less than six months' duration.

THE STAGES OF THE DISEASE FOUND

The disease has been divided arbitrarily into three stages. In our series of 2,180 cases, 640 cases (or 29 per cent.) were primary; 1,210 (or 55 per cent.) were secondary; and 330 (or 15 per cent.) were tertiary.

About 80 per cent. of our cases in the secondary stage were frambesiform eruptions, 14 per cent. papular, three per cent. macular, and three per cent. were of circinate forms. Lesions of the soles known as *clavos* were observed in three per cent. of our cases. Fissures or cracks (moth-eaten) on the plantar of the foot and palms of the hands were seen 40 times, or in 11 per cent. of the cases.

Fewer cases were seen in the tertiary stage, probably because in the secondary stage they had undergone spontaneous healing before reaching the tertiary. The tertiary lesions commonly observed were periostitis of long bones, spindle-shaped swellings of the fingers, gumma, and gangosa.

THE CAMPAIGN IN MINDANAO AND SULU

In 1922 the anti-yaws campaign was begun in Sulu, Cotabato, and Zamboanga by using neosalvarsan as the means of control; and it was continued throughout 1923. Because of lack of proper personnel to conduct an intensive campaign, the usefulness of the clinic was not extended to the interior towns. The central injection station was usually the capital of the province or the populated municipal districts. Spittle⁽¹²⁾ did not believe that a campaign to eradicate yaws can be conducted by inviting the natives to attend a central injecting stations. According to him, they must be visited in their homes, each series of villages from four to six times. Such a scheme is now in operation in Ceylon.

In Sulu the clinic day was usually announced in the various municipal districts by a dispensary attendant, a "datu," or a municipal district president in the markets during the market day. The people were informed that on a certain date and at

a designated place the health personnel of the Service would be ready to attend to their needs. It was, indeed, surprising to note that on the designated day the clinic was exceedingly well attended. The response was so immediate and unusual that on each clinic day, there were not less than 50 or 100 patients treated. The Mohammedans displayed an unusual eagerness for injection. Clapier, in his paper on the anti-yaws campaign in French Kongo, said that the natives are drawn by arsenobenzol as bees by honey. This statement may be well repeated of the neosalvarsan injections in Sulu.

The results of the clinic were so gratifying not only to the health personnel, but also to the patients that those who were



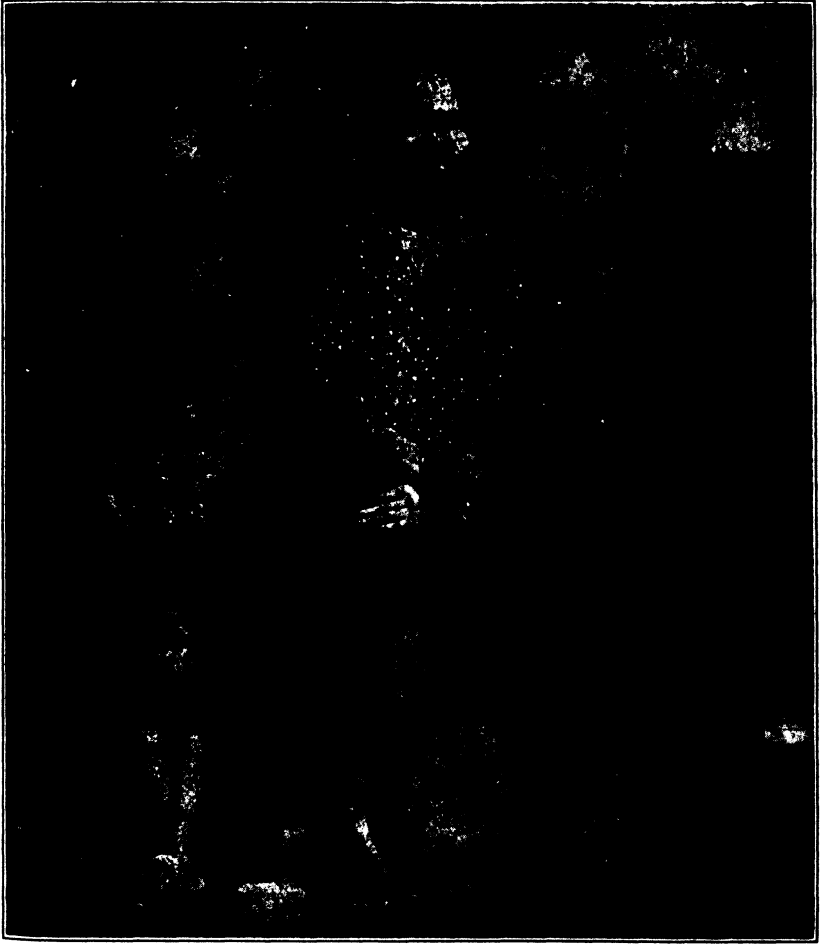
A clinic day in Indanan, Jolo

not injected on clinic days for some reasons went away very much disappointed; but they were the first to appear on the next clinic day. Those who had been injected served as the advertisers of the clinic, because the result of the treatment was so miraculous to them that the cure was usually effected after one week with one single injection.

PROPHYLAXIS

The measures for the control of yaws must be of a nature that will appeal to all the Mohammedans. Isolation is not only offensive to them, but impracticable and difficult to carry out.

Goodman, however, advocated isolation in special yaws hospitals in infected districts. According to him, each patient should be covered with a mosquito-bar to protect the lesions against blood-sucking insects, and there should be a compulsory notification of yaws to the local health officer.



In a house of ten persons, four contracted the disease

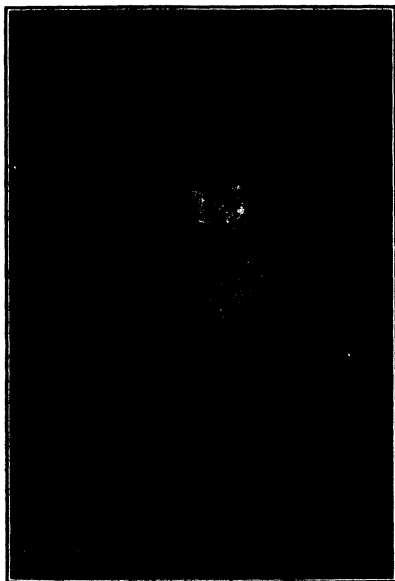
In Santo Domingo, there was much dread of the disease, as related by Sellards and Goodpasture.⁽¹⁰⁾ According to these authors, those infected with yaws were avoided, barred from villages, not by government regulations, but by native custom. The patient is isolated in a small outbuilding of the home and

not allowed to go to other parts of the house during the granulomatous stage.

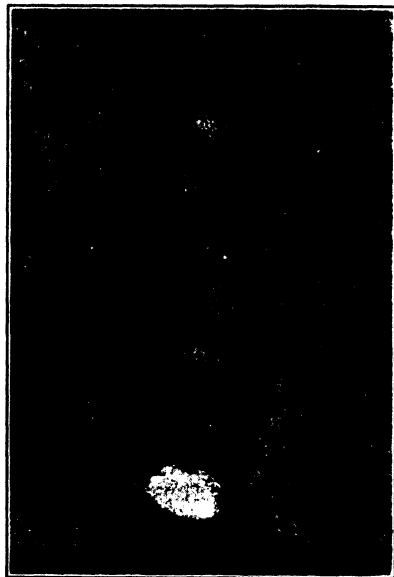
NATIVE REMEDY

The method of treating yaws, as practiced by the Moro healers, is as follows:

In the Sulu the native remedy for this disease, called "Minal," (copper sulphate) is said to have originated from the Chinese. The "minal" is finely powdered and mixed with lemon juice to form a thin paste. This medicine is applied locally over the lesions every morning and evening. The medicine that they use internally consists of different kinds of plants.



Before neosalvarsan injection



After neosalvarsan injection

Bana shoots, one of them, are cut to pieces and put in water for drinking purposes. They are believed to have refreshing effect. Moros assert that good results have been obtained from this native remedy.

In Cotabato the Moros use guava decoction in washing the ulcer to remove the crust. After washing, lemon juice heated on a piece of iron is applied on the lesion. It is also asserted that good results have been obtained in this treatment in three to six weeks' time.

THE OLD TREATMENT

Prior to the discovery of salvarsan by Ehrlich, there was no specific cure for yaws. In former times, the inhabitants of the Philippines abstained from treatment because of the belief that it would result in a more serious disease, such as syphilis or leprosy. This belief resulted in their not taking medical

treatment. They preferred not to undergo treatment and waited for the spontaneous cure, as did happen in some cases.

The majority of the older authors advised the use of local treatments, such as the washing of the lesions with a solution of zinc chloride, bichloride of mercury, sodium bicarbonate, ammonium carbonate; or cauterization with silver nitrate, nitric acid, tincture of iodine, chromic acid, or the application of an ointment such as mercurial or bismuth.

The mercury and potassium iodide have little influence on the disease. According to Goodpasture and De Leon,⁽¹³⁾ the treatment of yaws with mercury and potassium iodide in the early secondary stage caused no noticeable improvement in the lesions. In order to give results, they have to be administered in large doses and for a long time even after the disappearance of eruptions.

In 1921 Guerrero, Domingo, and Agüelles⁽¹⁵⁾ used Castellani's formula in more than 43 cases of yaws in Manila with good results. They believed that Castellani's treatment exerts a curative influence on the various manifestations of frambesia. The relapses and incomplete recovery in some cases are ascribed to incomplete medication because of the suspension of the treatment before the destruction of the spirochetes was complete. One of the principal drawbacks of the treatment, however, is the intolerance of the patients for tartar emetic.

We had occasion to try this formula in Cotabato, Zamboanga, and Sulu from 1919 to 1921; but it did not give the desired results. It is not only slow, but incomplete in promoting recovery. However, according to Dr. Orosa, one per cent. of tartar emetic solution was tried intravenously in Sulu for a year with good results.

THE NEW TREATMENT WITH SALVARSAN AND ITS DERIVATIVES

To-day we are fortunate in having a medicine which is a specific for yaws. Among all the medicines which heretofore have been tried, undoubtedly salvarsan is the best. One injection is generally sufficient to cause the complete disappearance of the granulomatous lesions. All authors who have had occasion to use salvarsan recognized the drug as of exceptional value.

In 1910 Strong injected 30 cases of yaws with salvarsan in Manila with good results. He does not know any medicine which gives such specific action in such cases as where salvarsan is employed.

In the anti-yaws campaign in French Kongo, Clapier used novoarzenobenzol, by injecting intravenously from 1 to 1.50 centigram for each kilo of body weight. He cured 25 per cent. with single injections, and 50 per cent. with two. He used to give three injections to each patient and applied antiseptic paste to the lesions. In the Belgian Kongo, Van den Branden and Van Hook(14) used sulfarsenol in yaws. They aserted that its therapeutic action equals that of neosalvarsan and novoarzenobenzol.

DOSAGE

The schedules of dosage tabulated by Bergene and Sellards were modified as shown in Table IV. In our campaign the neosalvarsan dose of usually 0.9 gm. is dissolved in 20 mils of normal salt solution or sterile water. One cubic centimeter of this solution contains 0.045 gm. We found it more convenient to estimate the dose in field work by giving one mil for each year of age up to six years.

TABLE IV.—Schedule of dosage

Age	Bergene		Sellards		Modified scheme		
	Age	Dose	Age	Dose	Age	Dose	
	Years		Years		Years	c.c.	
Adults.....	18-20	.90	18-20	.60	18-20	15-20	.60-.90
Subadults.....	16-17	.75	16-17	.50	12-15	12-15	.55-.67
Subadults.....	10-15	.60	10-15	.45	10-15	10	.45
Subadults.....	7-10	.45	7-9	.40	10-15	9	.35
Children.....	5-7	.30	5-6	.30	6-10	6-8	.27-.36
Children.....	3-5	.22	3-4	.22	5-7	5-6	.22-.27
Children.....	2 less	.15	2 less	.15	2-4	4	.16
Infants.....		.075		.075	1-2	2-3	.94-.12

Alston believes that frambesia supports salvarsan more than does syphilis. For this reason the doses can be increased with safety in this disease since the reaction produced is slight or nothing at all. We have had occasion to observe three cases of violent vomitting followed by fainting in cases of syphilis. Such reactions have not been observed in our cases of yaws. Strong, Castellani, Flue, and others found that yaws usually required small doses to destroy *T. pertenue* of yaws than *T. pallidum* of syphilis.

METHOD OF ADMINISTRATION

Brochard asserted that he had cured nine cases of yaws with old salvarsan administered by mouth. Albert and Rosal found no improvement with this method of administration. The subcutaneous and intramuscular injections are inconvenient in that they are painful and absorption is slow. Ehrlich advised to

abandon this method entirely and used exclusively the intravenous method. The latter method was used whenever it was possible in our campaign in Sulu, except in children where intramuscular injection was used in some cases.

EFFECTS OF NEOSALVARSAN

Three or four days after the injection, the eruption began to dry and disappeared completely within 10 to 15 days. Even deep ulcers were cured by this medicine within the remarkably short period of two to four weeks without local treatment. It gave better results in recent ulcers not complicated with secondary infections. Strong believed that in those cases which do not yield readily to a single injection, it is advisable to give another injection three weeks after the first. The naso-pharyngeal affections are more resistant to the treatment, according to Alston and Rost; by Flu averred that he has cured some cases in two weeks with a single injection. I have personally cured two cases of gondu with two injections.

Clinical observations and animal experimentation have shown clearly that *Treponema pertenue* remain latent in the lymphatic glands, spleen, and bone marrow for a long time even after the disappearance of the cutaneous eruptions. Following the clinical cure of yaws by mean of intravenous injection of neosalphemamin, according to Goodpasteur and de Leon,⁽¹³⁾ the Wasserman reaction remained positive for several months and became negative within six months.

UNTOWARD EFFECTS OF INJECTIONS

Outside of the little pain at the site of the injection, little headache, an occasional slight rise of temperature, and possibly vomiting in some cases, no abnormal symptoms have been observed during our campaign in the eradication of yaws by neosalvarsan. However, one fatal case was registered on a Moro child of six months in Cotabato, several hours after an injection of 0.20 Gm. of neosalvarsan.

RECURRENCE

The cure is apparently permanent, and there is little tendency to recurrence. Strong affirmed that those patients treated by him do not show any evidence of recurrence even after six months. Castellani had one case of recurrence after one month, but yielded easily to the second injection. Out of 1,626 cases, Bergene noted only 4.9 per cent. of relapses or possibly reinfections. Kurien, in his series of 3,000 cases, gave a recurrence

rate of 11 per cent. In our cases of 2,180 cases treated in Sulu, about four per cent of recurrences have been observed, but about 92 per cent of the cases received only one injection. Spittle has seen many clinical recurrences within six months to six years after giving from two to six large injections of "60A" (Salvarsan). Probably, the dosage injected in those which showed clinical recurrence was very small and was insufficient to kill with a single injection all the treponema.

EXPENSES

In connection with the anti-yaws campaign in Sulu, the cost seems negligible if we take into consideration the actual cases of yaws cured and the amount of suffering relieved. The neosalvarsan was obtained from the Central Office in Manila. For Government use, a 0.90 gm. ampoule of neosalvarsan costs only ₱0.40. The whole campaign, or rather the total number of injections on 2,000 patients, cost the Service ₱503.75, or an average cost of ₱0.25 a patient. When we take into consideration, further, that the transportation was furnished free by the offices of the superintendent of schools and that of the provincial governor, the *per capita* cost will still be reduced to an average of ₱.15 a patient.

SUMMARY

1. In Mindanao and Sulu, yaws has been endemic for many generations and it is believed that the disease was brought to the Philippines by the Moros who settled Mindanao and Sulu incident to the slavery-trading with the Celebes.

2. The disease is transmitted from one person to another by direct contact thru traumatism or abrasion. Insect vectors, such as flies, mosquitoes, bed-bugs, and head-lice are charged as agents in the transmission of the disease.

3. In Sulu about 60 per cent. of the cases of yaws occurred among the inhabitants of the interior towns, while the remaining 40 per cent. occurred among the inhabitants of the towns bordering the sea, swamps, and rivers. We found that the disease is more frequent in lowlands than in highlands.

4. The poor as well as the "datu," "hadji," and well to-do Mohammedans do not observe simple regimen of personal hygiene and sanitation of their homes and surroundings. It has been observed, however, that 90 per cent. of the cases belong to the poor.

5. The disease is more frequent in males than in females and more common in children less than 10 years of age than among the adults.

6. The minimum period of time elapsing exposure to the first stage was two weeks as a minimum and three years as a maximum.

7. Two weeks have been found as the minimum and two years as the maximum duration from the first to the second stage.

8. In order to bring the disease under permanent control, it is necessary that the focus of infection be eradicated in a given community by the treatment of individual patient. To accomplish this end, it is necessary that repeated visits to their villages of at least six months interval be done. It is in this way, and only in this way, that the foci of infection may be wiped out.

9. It is now well recognized that salvarsan, or its derivatives, has a definite curative value. There is no other disease in which it gives the best illustration of the specific action of the drug than in the uses of salvarsan in the treatment of yaws.

10. The intramuscular method being painful and slow in its absorption, the method of administration of neosalvarsan is the intravenous injection.

11. The effect of neosalvarsan being apparently permanent, there is little tendency to recurrence or re-infection after the treatment with neosalvarsan. The expense of neosalvarsan for government use is remarkably low, amounting only to ₱0.25 a patient.

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DYSENTERY EPIDEMIC AT LA UNION

By F. VELEZ

District Health Officer

The following is a brief report of the dysentery epidemic at La Union Province:

The outbreak of dysentery epidemic in the municipality of Naguilian, Province of La Union, occurred in June of this year. The cases began abruptly in the barrios located along the bank of the river. At the beginning of the rainy season, the first barrios infected were eight, as follows: Agsidurizan, Suguidan, Afigin, Guesset, Ambaracao, Magungunay, Balebec, and Al-alinao, which are all located above the river and extended later to other barrios like Mamat-ing and Bato. The first four barrios had been infected with dysentery during the previous year. At the beginning of this month, the infection spread to the municipality of Bauang, where several cases were registered. The municipality of Naguilian is bounded on the west by Bauang and the cases were registered in the barrios located on that side of the river.

Epidemiology.—Two are the principal causes to which the epidemic may be attributed. The fact that the people are accustomed to take their drinking water from superficial dug wells along the river bank, the outbreak occurring at the beginning of the rainy season when surface pollution was to be expected. The cases, moreover, occurred in those barrios located along the bank of the river. There is no doubt that the water was the main factor in this epidemic. This year, it has been noted that flies were more abundant than in previous years and we are of the opinion this was the principal cause of the many cases of dysentery among babies. This epidemic was doubtless of the bacillary type because of the clinical aspect of the cases and the result of the treatment with anti-dysenteric serum.

Measures: From the appearance of the first cases, the sanitary personnel were mobilized, by detailing four sanitary inspectors and two nurses to work each in a given zone, and house to house inspection was made to discover new cases. These were isolated at first in their own houses and later transferred

to the emergency hospital. Systematic disinfection of the whole house, utensils used by the patients, care of the excreta, closet making, even of a provisional nature and order to boil all drinking water. As general measures, all water sources were guarded, wells were disinfected, campaign of cleanliness was inaugurated, control of flies, and distribution of Ilocano leaflets on the prevention and treatment of dysentery. The use of boiled water for drinking purposes was encouraged. Systematic supervision of all drinking water served in the market, *carinderias*, restaurants, etc., was maintained. Existing sanitary ordinance were strictly enforced. The people were induced to notify the health authorities of all suspect cases or any actual case of dysentery or diarrhea and enteritis and of the celebration of town fiestas or social gatherings, like the *novenario* was prohibited. With the valued coöperation of the municipal authorities, two emergency hospitals were opened, one at Naguilian and the other at Bauang.

At the present writing, the epidemic may be said to be under control and will shortly be eradicated.

MISCELLANEOUS

ALBAY

The hookworm campaign was discontinued, as for the past three or four months, very few people presented for treatment. Last year in Camalig in one month there were treated 1,441 cases, this year but 141 were treated. Last year in Guinobatan 713 were treated, whereas this year in the same length of time but 82 were treated. The commission spent the first two weeks of June in Polangui, where only 2 treated. It is interesting to note that great numbers of those found positive a year ago and treated are now negative.

The famous Messiah, *Asuang Sa Dagat*, was apprehended and is now under treatment, for yaws in the provincial hospital. He is almost cured.

ANTIQUE

During the Normal Institute in this capital, all the teachers that attended were physically examined by the District Health Officer, Dr. Roman Palillo Guerrero and Dr. Raymundo Azurin. During this examination, three teachers were found affected with tuberculosis and recommended for temporary separation from service.

BATAAN

A survey relative to the real situation of waste disposal, with special reference to the Antipolo system, was conducted.

The investigation on simple goiter was continued in the municipalities of Dinalupihan, Hermosa, Orani, and Samal.

The district health officer is conducting a campaign in the municipalities of Balanga, Orani, and Orion for the adoption of a sanitary code. It is intended to extend this campaign to all the other municipalities of this district.

A campaign for the prompt eradication of dysentery cases in several municipalities was undertaken.

BATANGAS

Twenty-five schools were inspected and 2,452 school children physically examined by the president (of the Sanitary Division) and district nurses; 4,609 persons were injected with pure cholera vaccine; 136 Antipolo closets were constructed in 12 municipalities, and 32 conferences were given by presidents of sanitary divisions and district nurses.

BULACAN

Dr. Antonio M. Pasco resigned and his place was taken by Dr. Anselmo Abela, by transfer from Cavite to Bulacan.

Dr. Lopez Rizal and Sanitary Engineer Mañosa went to Bustos to investigate the cases of tropical ulcer.

One truck accident occurred in the jurisdiction of Pulilan and one girl was killed instantaneously.

The district health officer is cooperating with the municipal authorities regarding the construction of water systems in Baliuag, Bulacan, San Miguel, Hagonoy, Santa Maria, and Meycauayan.

The campaign for more sanitary water closets in Malolos is progressing, specially in the barrios of Mojon and Catmon.

Considerable time was spent by the District Health Officer in the inspections of wells for the proposed water system in various municipalities. Several automobile accidents were attended by the local personnel.

CAGAYAN

Several cases of diarrhea and enteritis were registered in Solana. Teachers who have attended the Normal Institute at Aparri brought to their respective families the oyster-like "gacca" and every one who had partaken of this kind of food suffered from diarrhea and enteritis.

CAMARINES NORTE

The health condition in the province is good. No epidemic disease were reported or registered. On inspection it was found that some of the closets were poorly built.

CAMARINES SUR

During inspection in Naga one restaurant was ordered closed due to noncompliance with water receptacles regulation.

In Iriga an emergency station was put up in connection with the town fiesta. At the same time the *carinderias* and markets of the town were inspected and found in satisfactory condition.

CAVITE

A house-to-house campaign for the adoption of sanitary containers for drinking water is being conducted in the town of Cavite. They will be sold at a nominal cost.

Sanitary Inspector Demetrio Fetelo resigned.

Tereso Rios was appointed sanitary inspector.

Dr. Marcelo Gonzalez, from Bacolod, Occidental Negros, took station in the ninth Sanitary Division (Alfonso), relieving Dr. Nicomedes Laborte. Dr. Nicomedes Laborte relieved Dr. Anselmo Abela of the seventh Sanitary Division (Naic). Dr. Abela was transferred to Bocaue, Bulacan.

DAVAO

The physical examination of school children in the municipality of Davao was conducted. It was found that tonsillitis and dental caries were prevalent among them.

ILOCOS SUR

A campaign for the construction of sanitary toilets brought the following results:

Private Antipolo system.....	57
Flushed closets	11
Pit system	7

ILOILO

The cholera suspect reported from Dingle was found negative. Food handlers and several other persons were found suffering from trachoma.

IA UNION

The provincial board approved a resolution providing for 3 public dispensaries; one in Luna, one in San Fernando, and one in Agoo. The municipalities will donate the land and assign 10 per cent of their general funds for health purposes. The physical examination of teachers attending the Normal Institute and high-school pupils was conducted.

LAGUNA

The inspection of Alaminos revealed deficiencies in regard to the sanitary control of tiendas, sanitation of the town, and the enforcement of municipal sanitary ordinances.

The cholera suspects in Biñan and Santa Maria were found negative in the bacteriological examination.

The Municipal Council of Pagsanjan is disposed to further the sanitation of the town on account of the ever increasing number of tourists that visit the place. A modern garbage collection and disposal system will be installed soon.

At a special session of the Municipal Council of San Pablo in which the Executive Bureau was represented and with the attendance of the provincial treasurer, the district engineer and the district health officer, it was resolved that the market proper shall be fenced, all living quarters removed, and the use of fire ovens inside the market strictly prohibited. A rearrangement of the market has to be effected by the district engineer with the assistance of the district health officer.

LANAO

The districts around the lake region were inspected. The trip was quiet dangerous on account of the unfriendly attitude of the Moros. To face the situation and to leave them unmolested, it was deemed necessary to establish a new policy, by refraining from doing in the field any work of a compelling character, unless mutual consent was had first.

MASBATE

The medical examination of school children was conducted with the following results: Of the total 220 students examined in the high school, 17 were suffering from trachoma and acute conjunctivitis,, 30 with dental caries and 36 tonsillitis.

MOUNTAIN PROVINCE

In Angad, a barrio of Bangued, 14 cases with 3 deaths of amoebic dysentery among children were registered. Sanitary measures were adopted including disinfection and isolation of the patients. Antipolo closets were built for every house.

MINDORO

Vaccinators were detailed in several municipalities, for vaccinating Mangyans living in the barrios.

NUEVA ECIJA

The Municipal Council of Cabanatuan voted ₱2,000 for the construction of concrete drains around the market.

NUEVA VIZCAYA

Two-thousand six-hundred forty-four dwelling houses were inspected, 244 sanitary orders issued, 237 of which were complied with; 316 patients were treated by the sanitary inspectors; 24 new Antipolo closets constructed; 35 lectures given with 1,774 persons in attendance; 450 anti-smallpox vaccinations were performed with 171 positives.

SAMAR

A system of street drains for Catbalogan is in-due process of completion. The non-technical inspection personnel's assembly in the district was held from June 9 to June 11 in Catbalogan. During the assembly intensive training was given daily. Lectures were given by the District Health Officer and four presidents of sanitary divisions. Military drill was also indulged in. The last day was partly devoted to boxing and indoor baseball.

SORSOGON

A resolution was passed by the municipal council of Gubat appropriating the amount of ₱20,000 for the construction of waterworks in the municipality, which was duly approved by the provincial board and the provincial treasurer.

In Casiguran a public closet of strong materials with three compartments was finished and opened for public use.

Vaccination against smallpox among children during confirmation by the bishop, Mons. Reyes, in each of the municipality visited by him was performed. About 200 children were vaccinated. During the month 1,000 injections against cholera were given.

SULU

During the month a number of water tanks were received from the Bureau of Supply for distribution to the different dispensaries. Medicines and medical supplies were issued to last at least three months. Requisition for medicines and medical supplies for the last semester 1926 was prepared and forwarded to the Bureau of Supply. A party of yaws clinic was sent to southern islands for an active campaign against yaws.

The district health officer had a conference with the provincial governor in connection with the waterworks system and the installation of a new pumping machine.

TARLAC

The inspection of tiendas, vaccinations, private and public conferences, physical examination of school-children were conducted by the sanitary personnel.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of June, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹ BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	290,009
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All Others	2,186
Total	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I, MEISIC:	
1. Tondo	79,705
2. San Nicolas	28,792
3. Binondo	17,898
Total	125,895
No. II, SAMPALOC:	
4. Santa Cruz	51,565
5. Quiapo	15,658
6. San Miguel	4,377
7. Sampaloc	39,186
Total	110,786
No. III, PACO:	
8. Port Area	4,754
9. Intramuros	14,437
10. Ermita	15,981
11. Malate	16,259
12. Paco	15,830
13. Pandacan	5,785
14. Santa Ana	6,589
Total	79,585
Grand total	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATION, JUNE, 1926**

Date	Pres- sure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	753.68	27.8	33.2	4	23.8	4	30.7	31.1
11-20.....	56.70	26.8	31.8	20	22.0	13	28.1	28.2
21-30.....	58.53	28.6	35.8	28	24.1	21, 29	30.1	30.3

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	84.2	88.6	10	80.9	5
11-20.....	88.0	95.4	13	83.4	19
21-30.....	78.7	86.5	21	71.2	29

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Km.	Km.		mm.	mm.	
1-10.....	SW	1,783.0	269.0	9	23.4	3.6	5, 8
11-20.....	SW	2,424.0	370.5	12	15.0	3.3	17
21-30.....	SW quad	1,812.0	282.0	22	40.4	5.5	29

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	29 00	6 15	5	208.6	10
11-20.....	6 15	3 00	20	431.5	9
21-30.....	65 05	8 50	27	20.8	2

¹ Corrected for instrumental error and for temperature and reduced to sea level. Cor-
rection to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters
above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY
OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	4	3	7	27.19
Filipinos.....	520	502	1,022	42.90
Spaniards.....	1	4	5	31.14
Other Europeans.....	2	2	4	21.63
Chinese.....	36	25	61	41.59
All Others.....	4	9	13	72.40
Total and average.....	567	543	1,110	42.73

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MEXIC:							
1. Tondo.....	142	137	279	10	7	17	296
2. San Nicolas.....	30	24	54	2	1	3	57
3. Binondo.....	40	24	64	1	1	2	66
Total.....	212	185	397	13	9	22	419
No. II, SAMPALOC:							
4. Santa Cruz.....	69	66	135	3	4	7	142
5. Quiapo.....	15	20	35	1	3	4	39
6. San Miguel.....	13	8	21	.....	.....	.....	21
7. Sampaloc.....	91	93	184	5	4	9	193
Total.....	188	187	375	9	11	20	395
No. III, PACO:							
8. Port Area.....	2	1	3	1	.....	1	4
9. Intramuros.....	12	16	28	1	3	4	32
10. Ermita.....	26	14	40	.....	2	2	42
11. Malate.....	58	61	119	1	5	6	125
12. Paco.....	26	19	45	4	.....	4	49
13. Pandacan.....	9	12	21	.....	.....	.....	21
14. Santa Ana.....	5	16	21	.....	2	2	23
Total.....	188	189	277	7	12	19	296
Grand total.....	538	511	1,049	29	32	61	1,110

Attended by physician, living, 325; stillbirths, 16. Attended by midwives, living, 90; stillbirths, 1. Attended by families, living, 695; stillbirths, 27.

**NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE
CITY OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	2	1	3	11.65
Filipinos.....	343	278	621	26.07
Spaniards.....	2	.....	2	12.45
Other Europeans.....	1	.....	1	10.81
Chinese.....	16	6	22	15.00
All Others.....	2	1	3	16.71
Total and average.....	366	286	652	25.10

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I, MESEIC:			
1. Tondo.....	126	105	231
2. San Nicolas.....	35	19	54
3. Binondo.....	5	6	11
Total.....	166	130	296
No. II, SAMPALOC:			
4. Santa Cruz.....	57	45	102
5. Quiapo.....	8	6	14
6. San Miguel.....	6	3	9
7. Sampaloc.....	49	50	99
Total.....	120	104	224
No. III, PACO:			
8. Port Area.....	1	1	2
9. Intramuros.....	13	7	20
10. Ermita.....	7	4	11
11. Malate.....	33	19	52
12. Paco.....	8	11	19
13. Pandacan.....	11	4	15
14. Santa Ana.....	7	6	13
Total.....	80	52	132
Grand total.....	366	286	652

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	133	76
Divorced.....		
Widowed.....	22	54
Single.....	272	195
Conditions not stated.....	2	1
Total.....	429	326
Grand total.....	755	

Stillbirths	44
Number of deaths with medical attendance.....	493
Number of deaths without medical attendance.....	262

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	87	74	9	19	189
1 year plus.....	52	41	6	2	101
2 years plus.....	10	18	2	1	31
3 years plus.....	9	5	1	.....	15
4 years plus.....	5	2	1	.....	8
5 to 9 years.....	17	6	1	1	26
10 to 14 years.....	5	1	5	.....	11
15 to 19 years.....	12	9	6	4	31
20 to 24 years.....	16	4	3	.....	23
25 to 29 years.....	23	15	3	1	42
30 to 34 years.....	13	15	5	2	35
35 to 39 years.....	20	18	2	3	43
40 to 44 years.....	18	8	2	1	29
45 to 49 years.....	7	12	6	.....	25
50 to 54 years.....	12	10	3	1	26
55 to 59 years.....	11	9	3	3	26
60 to 64 years.....	17	7	3	.....	27
65 to 69 years.....	8	4	.....	.....	12
70 to 74 years.....	8	4	1	.....	13
75 to 79 years.....	6	4	.....	.....	10
80 to 84 years.....	4	8	.....	.....	12
85 to 89 years.....	3	7	.....	.....	10
90 to 94 years.....	1	1	.....	1	3
95 to 99 years.....	1	4	.....	.....	5
100 years and over.....	.....	.....	.....	.....	.....
Age not stated.....	1	.....	1	.....	2
Total.....	366	286	63	39	754

NOTE.—One (1) female Filipino, about 45 years of age, permanent resident unknown, not included in the above table.

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													3
5	a. Typhoid fever.....			3										8
11	a. Malarial fever.....			6	2									6
16	Influenza:			4	2					1				1
	a. With pulmonary complications specified.....													1
	b. Without pulmonary complications specified.....													1
20	Dysentery:													1
21	a. Amoebic.....			6	1									8
29	b. Bacillary.....			7	2									10
	c. Unspecified or due to other causes.....			1	1									1
30	Leprosy.....													1
31	Erysipelas.....			1										1
32	Tetanus:													6
33	a. Umbilical.....			3	1					1	1			1
34	b. Others.....			1										1
35	Mycoses.....													1
36	Tuberculosis of the respiratory system.....	1		89	61					6	1	1		159
37	Tuberculosis of the meninges and central nervous system.....			4	2									6
38	Tuberculosis of the intestines and peritoneum.....	1		2	2						1			10
39	Tuberculosis of the vertebral column.....				1									1
40	Tuberculosis of other organs:													1
41	a. Tuberculosis of the bones (vertebral column excepted).....			1										1
42	b. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted).....													1
43-69	Disseminated tuberculous:													1
	a. Acute.....			1										1
	b. Chronic or unspecified.....			2	2									4
44	Syphilis.....			2										2
45	Purulent infection, septicemia.....			1										1
46-52	<i>II. General diseases not included in Class I</i>													
53	Cancer and other malignant tumors of the buccal cavity.....			1										1
54	Cancer and other malignant tumors of the stomach, liver.....			4										4

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA
[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
	a. Typhoid fever.....			3										3
5	Malaria:													
	a. Malarial fever.....			1										1
10	Diphtheria.....			1	2									3
11	Influenza.....													
	b. Without pulmonary complications specified.....				1									1
16	Dysentery.....													
	a. Amebic.....			2										2
29	Tetanus:													
	a. Umbilical.....			2	2									2
	b. Others.....			1										3
30	Mycoses.....													
31	Tuberculosis of the respiratory system.....			6	3									9
32	Tuberculosis of the meninges and central nervous system.....			1	1					2				3
33	Tuberculosis of the intestines and peritoneum.....													
36	Tuberculosis of other organs:				1					1				2
	c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted).....			1										1
43-69	<i>II. General diseases not included in Class I</i>													
44	Cancer and other malignant tumors of the stomach, liver.....													
50	Benign tumors and tumors not returned as malignant (tumors of the female genital organs excepted).....		1		1									2
55	Beriberi:													
	a. Infants.....													1
57	Diabetes mellitus.....			2	2									2
69	Other general diseases.....				1									2
70-86	<i>III. Diseases of the nervous system and of the organs of special sense</i>													
71	Meningitis:													
	a. Simple meningitis.....			1										1
74	Cerebral hemorrhage, apoplexy:													
	a. Cerebral hemorrhage.....			1		1								2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued
 [Stillbirths not included]

Internationalist numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
164	XIII. Old age													
164					1									1
165-203	XIV. External causes													
185														
188	Accidental traumatism by fall													1
	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):				1									1
198	a. Railroad accidents			1								1		1
202	Homicide by cutting or piercing instruments			1								1		1
	Other external violence													1
	Total	1	1	55	37	1	1	1	1	5	1	1		102
	Grand total	2		92		1	1	1	1	5	1	1		102

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
10. Diphtheria.....					2	2
11. Influenza:						
a. With pulmonary complications specified.....					1	1
b. Without pulmonary complications specified.....					1	1
29. Tetanus:						
a. Umbilical.....				8		8
31. Tuberculosis of the respiratory system.....					1	1
32. Tuberculosis of the meninges and central nervous system.....					2	2
36. Tuberculosis of other organs:						
c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted).....					1	1
55. Beriberi.....	1	1		9	22	33
56. Rickets.....					2	2
58. Anemia, chlorosis:						
b. Other anemias and chlorosis.....					1	1
62. Diseases of the thymus gland.....				1		1
69. Other general diseases.....					1	1
71. Meningitis:						
a. Simple meningitis.....					6	6
99. Bronchitis:						
a. Acute.....					19	19
b. Chronic.....					7	7
100. Bronchopneumonia:						
a. Bronchopneumonia.....					24	24
b. Capillary bronchitis.....					6	6
101. Pneumonia:						
a. Lobar.....					1	1
102. Pleurisy.....					1	1
103. Congestion and hemorrhagic infarct of the lung.....	1				1	2
112. Other diseases of the stomach (cancer excepted).....					2	2
113. Diarrhea and enteritis.....					28	28
118. Hernia, intestinal obstruction:						
b. Intestinal obstruction.....					1	1
124. Other diseases of the liver.....					1	1
128. Acute nephritis.....					1	1
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart.....	1			2		3
160. Congenital debility, icterus, and sclerema.....	5	5		9	4	23
161. Premature birth; Injury at birth:						
a. Premature birth (not stillborn).....	4	1			1	6
b. Injury at birth (not stillborn).....	1					1
162. Other diseases peculiar to early infancy.....	1			1		2
202. Other external violence.....					1	1
Total.....	14	7		30	138	189

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	21,876
Number of rats caught by spring traps.....	2,619
Number of cage wire traps set.....	660
Number of rats caught by cage wire traps.....	8
Number and kind of baits (coconuts).....	22,536
Number of poison portions placed.....	13,525
Number of rats found poisoned.....	204
Number of rats killed by clubs and other weapons.....	818
Number of rats found dead from other causes.....	578
Total number of rats otherwise caught, found dead, or killed.....	4,227
Total number of rats sent to the laboratory for examination.....	4,227
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JUNE, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.....	5		2		2	2			7	2	2		9	2
{ No. 1.....	2								2				2	
{ No. 2.....														
{ No. 3.....	4								4				4	
II.....	1								1				1	
{ No. 4.....														
{ No. 5.....														
{ No. 6.....														
{ No. 7.....	3		2						3		2		5	
{ No. 8.....														
{ No. 9.....	6	1	1		1				6	1	1		7	1
{ No. 10.....	1								1				1	
{ No. 11.....	2		1						2		1		3	
{ No. 12.....	1		1						1		1		2	
{ No. 13.....														
{ No. 14.....														
Grand total.....	25	1	7		2	2			27	3	7		34	3

REMARKS:

Cases confirmed as typhoid fever.....

Cases confirmed as paratyphoid fever.....

By autopsy.....

By blood culture.....

By urinal reaction.....

By urine examination.....

By feces examination.....

By clinical symptoms.....

Cases reported among non-resident persons not included in the table.....

Deaths reported among non-resident persons not included in the table.....

Typhoid carrier—5

31

3

0

0

13

0

0

18

17

3

DYSENTERIES REPORTED DURING THE MONTH OF JUNE, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I..... { No. 1..... No. 2..... No. 3.....	7	1	5	1	5	2	1	1	12	3	6	2	18	5
					1	1			1	1			1	1
II..... { No. 4..... No. 5..... No. 6.....	3	1			2	1			5	2	2	2	7	4
					1	1			1	1			1	1
III..... { No. 7..... No. 8..... No. 9.....	6	1	1		2	2	2	2	8	3	3	2	11	5
					2	2			2	2			2	2
IV..... { No. 10..... No. 11..... No. 12.....	1								1	1	1	1	1	1
	1	1							1	1			1	1
V..... { No. 13..... No. 14.....														
Grand total.....	18	4	6	1	13	9	5	5	31	13	11	6	42	19

REMARKS:

Amoebic dysentery.....

Bacillary dysentery.....

Unspecified.....

Cases reported among non-resident persons not included in the table.....

Deaths reported among non-resident persons not included in the table.....

Dysentery carrier—1

2

15

25

8

2

CHOLERA REPORTED DURING THE MONTH OF JUNE, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Grand total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.....	No. 1.....													
	No. 2.....													
	No. 3.....													
	No. 4.....													
II.....	No. 5.....													
	No. 6.....													
	No. 7.....													
	No. 8.....													
	No. 9.....													
III.....	No. 10.....													
	No. 11.....													
	No. 12.....													
	No. 13.....													
	No. 14.....													
Grand total.....														

REMARKS:

No non-resident case was reported during the month.

Cholera carrier—17

DIPHTHERIA REPORTED DURING THE MONTH OF JUNE, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I..	No 1.....		1								1		1	
	No 2.....													
	No 3.....													
	No 4.....	2	2						2		2		4	
II..	No 5.....													
	No 6.....													
	No 7.....		2								2		2	
	No 8.....													
	No 9.....													
	No 10.....	1	1						1		1		2	
III..	No 11.....													
	No 12.....	1							1				1	
	No 13.....													
	No 14.....													
	Grand total.....	4	6						4		6		10	

REMARKS:

Cases reported among non-resident persons not included in the table

Deaths reported among non-resident persons not included in the table

Diphtheria carrier—2

4

3

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF JUNE, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	27	10	6	2
Varicella	7	4		
Varioloid				
Smallpox				
Measles	5	5		
Whooping cough				
Influenza	19	6	5	2
Bubonic plague				
Encephalitis lethargica				
Meningitis cerebrospinal epidemic				
Pulmonary tuberculosis	162	98	97	62
Tuberculosis of all forms	18	18	10	14
Beriberi, infantile	20	11	20	11
Beriberi, adult	2	1	2	1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	18	1	1	
Varicella	1			
Varioloid				
Smallpox				
Measles				
Whooping cough				
Influenza	2	2		1
Bubonic plague				
Encephalitis lethargica				
Meningitis cerebrospinal epidemic				
Pulmonary tuberculosis	16	9	7	3
Tuberculosis of all forms	5	3	3	2
Beriberi, infantile		2		2
Beriberi, adult				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF JUNE, 1926**

Sera and vaccines	On hand June 1, 1926	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Antidiphtheric serum (units)	530,000		530,000	400,000	130,000
Antidysenteric serum (ampoules)	149		149	87	62
Antitetanic serum (units)	285,000	680,000	965,000	380,000	585,000
Cholera serum (ampoules)		20	20	20	
Cholera vaccine (c. c.)	24,180	156,000	180,180	179,400	780
Dried vaccine virus (units)	79,200	100,000	179,200	90,300	88,900
Fresh vaccine virus (units)	106,000	200,000	306,000	188,200	117,800
Gonococcus vaccine (ampoules)		100	100	100	
Mixed typhoid-cholera vaccine (c. c.)	20,400	132,000	152,400	147,900	4,500
Normal horse serum (ampoules)		10	10	10	
Typhoid vaccine (c. c.)	5,690	30,000	35,690	23,400	12,290

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JUNE, 1926

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated								
		Total vaccinations	Previously vaccinated			Under 1 year		1 to 4 years		5 years and over		Total	
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
No. 1.	Tondo.....	428	227	151	50	236	10	23	2	5	15	264	27
	San Nicolas.....	183	111	45	27	65	7	15	.....	8	.....	83	7
	Binondo.....	120	73	20	27	32	6	6	.....	1	.....	39	5
	Santa Cruz.....	502	102	81	319	114	3	66	8	31	52	211	63
	Quiapo.....	219	53	141	25	67	5	4	.....	.....	2	61	7
No. 2.	San Miguel.....	228	46	170	12	23	2	.....	2	1	4	24	8
	Sampaloc.....	429	112	302	15	123	2	10	.....	470	182	603	184
	Port Area.....	31	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....
	Intramuros.....	39	27	10	2	28	2	.....	.....	.....	.....	28	2
	Ermita.....	47	38	7	2	22	1	4	.....	.....	.....	26	1
No. 3.	Malate.....	180	87	87	6	85	16	1	.....	8	.....	95	25
	Paco.....	764	45	692	27	81	5	11	.....	.....	.....	42	6
	Pandacan.....	50	46	4	.....	14	1	4	.....	.....	.....	18	1
	Santa Ana.....	44	42	2	.....	17	1	.....	.....	.....	.....	17	1
		Total.....	3,234	1,010	1,712	512	849	60	144	13	519	263	1,512	336

Vaccine virus:

Received

Used

Remained

15,200

7,400

7,800

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF JUNE, 1921¹

Health districts	Municipal districts	Number of injections made in—												Total number of injections							
		Adults						Children						First			Second			Third	
		First injections		Second injections		Third injections		First injections		Second injections		Third injections									
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.		
No. I.	Tondo.....	1	960	.....	614	.....	521	25	375	.....	235	4	225	26	1,335	.....	849	4	746
	San Nicolas.....		613	.....	463	.....	455	.....	412	.....	316	.....	282	.....	1,025	.....	779	.....	737
	Binondo.....		727	.....	561	.....	475	.....	194	1	82	.....	55	.....	921	.....	643	.....	530
	Santa Cruz.....		908	.....	671	.....	662	4	357	8	241	.....	294	4	1,265	8	912	.....	946
	Quiapo.....		195	.....	99	.....	18	.....	59	.....	35	.....	10	.....	254	.....	134	.....	28
No. II.	San Miguel.....		413	.....	379	.....	337	.....	263	.....	228	.....	183	.....	676	.....	607	.....	520
	Sampaloc.....		959	.....	682	.....	364	2	480	2	362	.....	287	2	1,439	2	1,044	.....	651
	Port Area.....		57	.....	25	.....	20	.....		.....		.....		.....	57	.....	25	.....	20
	Intramuros.....	253	1,764	141	1,109	94	634	36	677	14	428	14	226	289	2,441	155	1,537	108	860		
	Ermita.....		338	.....	29	.....	8	.....	5	111	.....	46	.....	4	.....	449	.....	29	.....	
No. III.	Malate.....		229	.....	93	.....	5	.....	132	.....	46	.....		.....	361	.....	139	.....	8
	Paco.....		10	397	13	253	31	180	18	92	13	160	41	577	31	310	16	413	
	Pandacan.....					
	Santa Ana.....		6	344	119	1	53	21	131	1	86	4	32	27	475	1	205	5	85
	Total...	270	7,904	154	5,062	98	3,795	124	3,371	44	2,151	35	1,758	394	11,275	198	7,213	133	5,553		

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine used for the third injections.

V, in persons never vaccinated before; R, revaccinations.

SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE JANUARY, 1926¹

Provinces	Vaccinations			
	Total vaccina- tions	Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	26,229	3,351	16,319	6,559
Agusan.....	3,676	637	2,286	753
Albay.....	9,096	3,349	1,107	4,640
Antique.....	30,834	5,891	17,691	7,252
Bataan.....	5,789	2,007	1,863	1,889
Batanes.....	2,606	157	653	1,796
Batangas.....	13,093	3,279	5,185	4,629
Bohol.....	14,507	2,644	5,454	6,409
Bukidnon.....	1,913	488	657	768
Bulacan.....	34,456	5,262	25,558	3,636
Cagayan.....	12,491	2,519	5,253	4,719
Camarines Norte.....	2,394	985	689	720
Camarines Sur.....	56,912	7,816	37,989	11,127
Capiz.....	56,327	14,141	33,486	8,700
Catanduanes.....	6,367	1,163	1,529	3,675
Cavite.....	8,628	2,151	3,530	2,947
Cebu.....	60,135	17,522	15,203	27,410
Cotabato.....	9,503	3,128	2,712	3,663
Davao.....	2,586	823	649	1,109
Ilocos Norte.....	16,183	4,434	4,582	7,167
Ilocos Sur.....	10,358	2,547	1,337	6,474
Iloilo.....	22,270	9,682	5,062	7,526
Isabela.....	39,780	8,373	26,478	4,929
Laguna.....	13,603	3,632	6,529	3,442
Lanao.....	1,938	720	648	570
La Union.....	9,410	1,730	946	6,734
Leyte.....	29,845	10,692	2,283	16,890
Marinduque.....	3,820	759	711	2,350
Masbate.....	4,411	1,345	821	2,245
Mindoro.....	26,527	4,184	18,624	3,719
Misamis.....	31,695	5,177	15,946	10,572
Mountain Province.....	4,968	1,902	1,699	1,367
Nueva Ecija.....	16,228	5,043	3,270	7,915
Nueva Viscaya.....	9,333	923	5,784	2,626
Occidental Negros.....	16,071	8,128	3,832	4,111
Oriental Negros.....	14,811	3,843	4,992	5,976
Palawan.....	471	116	117	238
Pampanga.....	22,025	4,183	9,250	8,592
Pangasinan.....	28,953	8,665	6,308	18,980
Rizal.....	34,948	5,521	25,039	4,388
Romblon.....	1,416	450	375	591
Samar.....	39,553	7,271	25,280	7,002
Sorsogon.....	9,857	3,967	135	5,755
Sulu.....	4,405	2,479	722	1,204
Surigao.....	19,838	5,318	7,956	6,564
Tarlac.....	12,539	2,790	6,932	2,817
Tayabas.....	13,236	5,196	4,053	3,987
Zambales.....	4,568	1,219	1,169	2,180
Zamboanga.....	4,295	908	2,203	1,184
Total.....	824,847	198,515	370,856	255,476

¹ Incomplete; reports from the other provinces not yet received.

Vaccinations performed by the Vaccinating Parties are included in the above table.

**SMALLPOX VACCINATIONS REPORTED IN THE PROVINCES SINCE
JANUARY, 1926**¹—Continued

Provinces	Inspections of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
Abra.....	553	249	3,291	992	8,613	4,549	12,457	5,790
Agusan.....	82	18	201	94	488	426	771	538
Albay.....	1,427	446	1,429	378	1,272	540	4,128	1,364
Antique.....	1,229	251	2,956	1,538	6,623	11,167	10,808	12,966
Bataan.....	1,051	161	1,863	775	942	584	3,856	1,520
Batanes.....	140	70	438	191	1,109	466	1,687	727
Batangas.....	1,012	186	2,118	619	3,105	2,061	6,235	2,816
Bohol.....	1,545	373	2,165	918	4,385	3,659	8,095	4,950
Bukidnon.....	33	7	79	36	539	218	651	261
Bulacan.....	2,395	313	3,701	1,370	12,508	10,622	18,604	12,305
Cagayan.....	853	152	2,038	519	4,808	3,237	7,699	3,908
Camarines Norte.....	248	42	541	135	670	234	1,459	411
Camarines Sur.....	2,164	378	5,983	1,176	19,898	8,304	28,045	9,858
Capiz.....	2,446	397	5,479	951	23,219	9,162	31,144	10,510
Catanduanes.....	571	306	605	355	1,025	687	2,201	1,348
Cavite.....	1,693	158	1,413	314	3,300	1,690	6,406	2,162
Cebu.....	4,232	1,558	5,497	1,815	8,092	6,199	17,821	9,572
Cotabato.....	120	77	499	423	1,738	1,439	2,357	1,939
Davao.....	92	41	264	168	954	649	1,310	858
Ilocos Norte.....	1,897	323	3,325	840	3,860	3,443	9,082	4,606
Ilocos Sur.....	1,861	355	2,135	795	1,769	1,575	5,765	2,725
Iloilo.....	2,092	252	4,199	786	6,376	2,600	12,667	3,638
Isabela.....	860	128	3,677	739	11,416	6,797	15,953	7,664
Laguna.....	1,701	324	1,759	878	2,868	4,542	6,328	5,744
Lanao.....	63	11	115	42	152	120	330	173
La Union.....	789	227	1,094	923	1,344	1,870	3,177	3,020
Leyte.....	1,758	653	4,203	1,523	6,887	2,652	12,848	4,828
Marinduque.....	238	82	719	286	1,004	511	1,961	879
Masbate.....	376	123	631	369	1,012	929	2,019	1,421
Mindoro.....	531	36	2,371	208	11,108	5,109	14,010	5,353
Misamis.....	619	132	2,878	613	11,192	6,066	14,689	6,811
Mountain Province.....	108	36	376	203	1,027	492	1,511	731
Nueva Ecija.....	2,052	389	3,568	1,024	3,676	2,633	9,296	4,046
Nueva Viscaya.....	388	17	1,386	490	4,599	4,472	6,323	4,979
Occidental Negros.....	2,396	443	3,094	876	3,970	1,413	9,460	2,732
Oriental Negros.....	1,265	458	2,318	1,065	3,957	2,267	7,540	3,790
Palawan.....	33	7	53	12	229	151	315	170
Pampanga.....	1,869	410	1,970	703	4,316	2,982	7,655	4,095
Pangasinan.....	3,873	657	5,690	1,495	6,837	5,277	16,400	7,429
Rizal.....	1,988	327	3,113	1,382	5,064	8,576	10,165	10,285
Romblon.....	81	11	125	28	231	69	437	108
Samar.....	965	234	4,953	821	15,070	3,258	20,988	4,313
Sorsogon.....	701	227	1,565	584	1,137	569	3,403	1,380
Sulu.....	162	40	640	192	1,580	722	2,382	954
Surigao.....	412	139	1,388	637	4,604	3,748	6,404	4,524
Tarlac.....	1,343	545	2,159	798	2,899	3,089	6,401	4,432
Tayabas.....	1,468	285	2,928	654	5,166	2,394	9,562	3,333
Zambales.....	643	142	851	463	948	1,430	2,442	2,035
Zamboanga.....	251	97	264	175	561	865	1,076	1,137
Total.....	54,119	12,243	104,057	32,371	228,147	146,514	386,323	191,128

¹Incomplete; reports from other provinces not yet received.

Vaccinations performed by the Vaccinating Parties are included in the above table.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	19,492			19,492
Antique.....	9,077			9,077
Bataan.....	17,866	1,264		19,130
Batanes.....				
Batangas.....	120,896	8,408		129,304
Bohol.....				
Bukidnon.....	230	222		452
Bulacan.....	73,035	6,411		79,446
Cagayan.....				
Camarines Norte.....	101	57		158
Camarines Sur.....	10,891			10,891
Capiz.....	91,946			91,946
Catanduanes.....	2,892	423		3,315
Cavite.....	20,776			20,776
Cebu.....	83	22		105
Cotabato.....				
Davao.....	16	25		41
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	1,720	796		2,516
Isabela.....				
Laguna.....	100,504	14,331	1,164	115,999
Lanao.....				
La Union.....	3,953	1,458		5,411
Leyte.....	8,872	3,991		12,863
Marinduque.....	47,758	40,345	5,087	93,190
Masbate.....	1,674	735		2,409
Mindoro.....	27,986	3,509	220	31,715
Misamis.....				
Mountain Province.....				
Nueva Ecija.....	33,942			33,942
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	140,964	4,019		144,983
Pangasinan.....	244,519			244,519
Rizal.....	137,606			137,606
Romblon.....	339			339
Samar.....	647	243		890
Sorsogon.....	1,170	34		1,204
Sulu.....				
Surigao.....				
Tarlac.....	1,889	1,481		3,370
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	1,129,147	87,774	6,471	1,223,392

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	306	150	90	546
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	287	137	10	434
Bohol.....				
Bukidnon.....				
Bulacan.....	143	68	90	301
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....				
Catanduanes.....	512	180		692
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....				
Laguna.....	135	81	45	261
Lanao.....				
La Union.....	1,188	137	38	1,363
Leyte.....				
Marinduque.....				
Masbate.....	664	166		830
Mindoro.....				
Misamis.....				
Mountain Province.....				
Nueva Ecija.....				
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	628	168	36	832
Pangasinan.....	21	21		42
Rizal.....				
Romblon.....				
Samar.....				
Sorsogon.....	43			43
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	3,927	1,158	309	5,394

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA VACCINE) RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹

Provinces	First Injections	Second Injections	Third Injections	Total
Abra.....	2,217	3,462		5,679
Agusan.....	5,993	2,201		8,194
Albay.....	27	33		60
Antique.....	8,378	2,010		10,388
Bataan.....	212	113		325
Batanes.....	127	84	68	279
Batangas.....	510			510
Bohol.....	954	907		1,861
Bukidnon.....				..
Bulacan.....				..
Cagayan.....	1,846	2,116		3,962
Camarines Norte.....	572	754		1,326
Camarines Sur.....	3,111	1,407		4,518
Capiz.....				..
Catanduanes.....				..
Cavite.....	1,317	198		1,515
Cebu.....	3,887	154		4,041
Cotabato.....	211	30		241
Davao.....	208	136		344
Ilocos Norte.....	5,808	1,336	1,142	8,286
Ilocos Sur.....	684	749		1,433
Iloilo.....	14,265	3,382		17,647
Isabela.....	107	50		157
Laguna.....				..
Lanao.....	2,277	413		2,690
La Union.....	213	87	31	331
Leyte.....				..
Marinduque.....	38			38
Masbate.....	2,763	565		3,328
Mindoro.....				..
Misamis.....				..
Mountain Province.....	1,462			1,462
Nueva Ecija.....				..
Nueva Vizcaya.....	216	199		415
Occidental Negros.....	4,405	2,778		7,183
Oriental Negros.....	756	578		1,334
Palawan.....				..
Pampanga.....	1,900	656		2,556
Pangasinan.....	90	57		147
Rizal.....	1,630	300		1,930
Romblon.....				..
Samar.....	1,201	745		1,946
Sorsogon.....	326			326
Sulu.....				..
Surigao.....	160	120		280
Tarlac.....	23,149	13,100		36,249
Tayabas.....	13,218	4,481		17,699
Zambales.....	1,860	1,683		3,543
Zamboanga.....	2,241	76	15	2,332
Total.....	108,339	44,960	1,256	154,556

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF JUNE, 1926

(No case and no death reported during the month.)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF JUNE, 1926

Provinces and towns	Cases	Deaths
Ilocos Norte:		
Laong.....	1	1
Pangasinan:		
Posorrubio.....	1	1
Total.....	2	2

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF JUNE, 1926**

	Health districts			
	No. 1	No. 2	No. 3	Total
	Melale	Sampaloc	Paco	
Orders pending, June 1, 1926:				
Minor	117	114	85	316
Sewer	23	56	7	86
Vacating	8	13	.....	21
Filling	10	34	14	58
Total	158	217	106	481
Orders issued during the month:				
Minor	9	18	4	31
Sewer	1	1	.....	2
Vacating .....	.....	.....	.....	.....
Filling .....	.....	1	1	2
Total	10	20	5	35
Orders completed during the month:				
Minor	13	12	6	31
Sewer .....	.....	.....	3	3
Vacating .....	.....	.....	.....	.....
Filling .....	.....	.....	.....	.....
Total	13	12	9	34
Orders cancelled during the month:				
Minor .....	.....	1	.....	1
Sewer .....	.....	.....	.....	.....
Vacating .....	.....	.....	.....	.....
Filling .....	.....	.....	.....	.....
Total .....	.....	1	.....	1
Orders pending, June 30, 1926:				
Minor	113	119	83	315
Sewer	24	57	4	85
Vacating	8	13	.....	21
Filling	10	35	15	60
Total	155	224	102	481
Strong material plans approved:				
New buildings including additions and alterations	11	42	37	90
Permits for minor building construction:				
Approved	35	45	39	119
Disapproved	3	3	6	12
New buildings completed	26	33	41	100
Permits for light and mixed material constructions:				
Approved	15	39	47	101
Disapproved	6	10	9	25
Prosecutions:				
Convictions	1	1	.....	2
Dismissals	2	3	3	8
Amount of fines	P10	P6	.....	P16
Plumbing permits issued	44	54	43	141
Plumbing projects completed	33	43	44	120
Premises connected to the sanitary sewer to May 31, 1926	2,483	4,216	588	7,287
Connected during the month	3	6	14	23
Total	2,486	4,222	602	7,310

Melale includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
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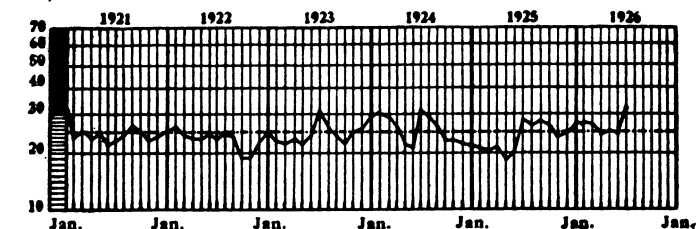
No. 7

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH. CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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VOL. VI

JULY, 1926

No. 7

STUDIES ON THE SEROLOGY OF LEPROSY

I. THE WASSERMANN REACTION IN LEPROSY

By

ELOY V. PINEDA, M.D., *Pathological Section*

and

ELISA ROXAS-PINEDA, M.D.,

Medical Section Culion Leper Colony, Philippine Health Service

[Abstract]

[Paper to be published in full in the Philippine Journal of Science]

The reports of workers who have studied the Wassermann reaction in leprosy have been very contradictory. The large majority have affirmed that it is positive, though the percentages of positive findings reported vary from 20 to practically 100 per cent. On the other hand, a few have arrived at the opposite conclusion, i. e., that this disease, uncomplicated, does not give rise to positive reactions. It is but comparatively recently that the latter view has been emphasized, and most of those interested in the subject are under the older impression.

It was felt that the matter should be investigated further to determine which view should be adopted. This is of importance, quite aside from any possible value of the reaction in the diagnosis of doubtful cases of leprosy, and aside from the theoretic interest in view of the otherwise practical specificity of the reaction. For the reaction can be used as an indication and guide for the necessary treatment of complicating syphilis or yaws

only in case there is assurance that it is not caused by leprosy itself. Furthermore, this information was desired in connection with projected studies on other phases of the serology of leprosy by the staff of the Pathological Section of this Colony. The findings in 500 cases are given together with a consideration of the effect of anti-treponematous therapy in positive cases.

TECHNIC

Two methods were employed: one, the new standardized technic of Kolmer, the other an ordinary technic. The Kolmer technic was chosen for comparison with our regular one primarily because of the negative results obtained with it by Kolmer and Denney in leprosy, as well as because of its apparent superior sensitiveness in the diagnosis of syphilis.

CASES EXAMINED

Sera from five hundred unselected cases were tested. According to the classification used in this colony, about 70 per cent of the cases were of the mixed type, about 20 per cent of the cutaneous and 10 per cent of the neural. Most of them had been treated with chaulmoogra oil derivatives for about 2 years; 66 were untreated new arrivals. Fifty-nine cases were on the negative list; i. e., they were clinically arrested and bacteriologically negative. These cases were carefully examined and questioned to determine whether they had had syphilis or yaws.

RESULTS

The reaction was positive in some degree in 85 cases, 17 per cent of the total. But most of these positive cases were known or suspected to have had a treponematous infection. Only 27 of those giving positive fixations gave neither history nor signs of syphilis or yaws, but these patients were very ignorant and could not answer questions intelligently. Moreover, many of them came from districts in which yaws is prevalent. Therefore, a treponematous infection could not be definitely ruled out. In nine of these cases fixations were complete and in eighteen they were weak and usually negative in one or two of the parallel tests.

It is of particular interest that 16 of the 19 apparently uncomplicated cases that gave weak fixation were suffering from the phenomenon known as lepra reaction. That this slight fixation of complement was in some way connected with this condition was indicated by the fact that the reaction became negative with the subsidence of the lepra reaction.

Of 42 cases suspected or diagnosed as suffering from yaws, 36 gave positive reactions, while 6 yielded negative results. In several cases in this group the degree of fixation was greater with the old technic (cholesterinized antigen) than with the Kolmer test, while no serum showed the converse in this respect.

Of 25 cases suspected of being syphilitic 22 gave positive Wassermann reactions of some degree of strength. Where differences in the degree of fixation was noticed in this group, it was greater with the Kolmer technic, in contrast to the finding in the yaws group.

DISCUSSION

From these results it is evident that it can not be said that the Wassermann reaction is positive in leprosy in the sense that it is in syphilis or yaws. On the other hand, it can not be said never to occur in uncomplicated leprosy, for it would seem that in some phases of leprosy some change may occur whereby the serum tends to fix complement in the presence of a lipoid antigen. This seems most apt to occur during lepra reaction.

While those who report positive reactions in leprosy find marked differences between the different types of the disease, we have found absolutely no relation either with the clinical type or with the extent of treatment. The incidence of the positive reactions in the cutaneous, mixed and neural groups, and in the treated and untreated cases, is surprisingly alike. In 46 children included in this group the frequency of the reaction is distinctly less (6 per cent), but most of these children were either born in or taken to this colony at a very early age and the chances for infection with either yaws or syphilis has been slight.

Two cases were negative with Kolmer's method but positive with the ordinary technique. This, coupled with differences of intensity of fixation in cases of lepra reaction, shows that though the new technic does occasionally give weak nonspecific reactions, it nevertheless has distinctly less tendency to do this than the usual technic using a cholesterinized extract for antigen. In this connection it is to be said that with the ordinary technic we find it necessary to titrate the cholesterinized extract very closely, otherwise a much larger percentage of fixations would occur.

A relatively large proportion of the cases in which the Wassermann reaction was positive were diagnosed or suspected of yaws, considerably more than were positive for syphilis. This is in conformity with existing conditions in the Philippines,

while syphilis is not common except in the larger cities; yaws is endemic and prevalent in many localities.

As the effect of anti-treponematous treatment is important evidence with regard to the causation of positive Wassermann in leprosy, the data available is also given. Thirty-two positive cases were treated with neoarsphenamine and the reaction repeated one or more times. The reaction was changed from positive to negative in 23, and in 7 others it showed greater or less diminution in strength. These were with a single exception in cases of yaws in which diseases the reaction is known to disappear more slowly than in syphilis. In only two cases did the strength of the reaction remain unchanged, but these were frank cases of yaws and the lesions have already disappeared.

CONCLUSIONS

1. Our findings indicate that with Kolmers and other refined methods the Wassermann reaction is negative in uncomplicated cases of leprosy in its ordinary phases.

2. Conversely, when the Wassermann reaction is clearly positive in leprosy, it has the same significance as in non-lepers.

3. A certain proportion of cases of lepra reaction without evidence or presumption of treponematous complication weakly positive reactions are obtained. That such reactions are due to the same substance that is demonstrated in syphilis and yaws is highly improbable.

HEALTH OFFICERS' FIRST GENERAL ASSEMBLY

By DR. REGINO G. PADUA, *General Secretary*

THE TRIP

At about 7 a. m., May 1, 1926, the special train, carrying the delegates and invited guests including some of their families, started from Manila bound to Damortis arriving thereat at about 2 p. m., May 1, 1926. On its way, other delegates and authorized persons were picked up at several stations in accordance with Circular No. 99 under date of March 6, 1926. Lunch was served in the train, furnished by San Lazaro people upon paying one peso (₱1) per head.

Upon arrival at Damortis, 5 trucks and 7 autos were ready to take the delegates and authorized persons up to Baguio. These started from Damortis, with the least amount of necessary delay, at about 2.30 p. m., May 1, 1926, and arrived at Baguio amidst heavy rainfall at about 4.30 p. m., May 1, 1926.

On return, the delegates and authorized persons were taken down from Baguio at about 1 p. m., May 16, 1926, in 8 trucks and 7 autos, arriving in Damortis at about 2.30 p. m., May 16, 1926. The special train from Damortis started at about 3 p. m., and arrived in Manila at about 11.30 p. m., May 16, 1926. Dinner was furnished to each and every one of the delegates by the hotels and other houses where the delegates lodged.

No personal accidents happened during the trip, both from Manila to Baguio and return.

THE CONVENTION

Altogether, there were 181 health officers and 21 invited guests who attended the convention. After one week, some of the delegates returned to Manila while others came up to Baguio. The list of delegates, invited guests, and other personnel, is attached in the appendix. The Director of Health, Dr. Jacobo Fajardo, was the President of the Assembly and Dr. Regino G. Padua, his assistant, the General Secretary, in accordance with the Memorandum Order. For the purpose of this report, the Convention may be briefly considered under six main headings.

(a) GENERAL SESSION

There were five general sessions in which the public were invited. The first took place on May 3rd, the second on May 8th, the third on May 10th, the fourth on May 13th, and the fifth on May 15th. These were held in Burnham Auditorium from 10 a. m. to 1 p. m.

The morning of the first day of the convention (May 3, 1926) was devoted to the opening exercises. Father E. Corlu of the Baguio Cathedral pronounced the invocation, the Mayor of the City of Baguio delivered the welcome address and the Director of Health the opening address. The Honorable Acting Secretary of Public Instruction gave an instructive talk to the delegates and then His Excellency, the Governor-General made impressive remarks with regards to the present needs of the country and the problems that the Health Service is confronted with.

At the general session on the morning of May 8, 1926, appropriate speeches were delivered by Major A. P. Hitchens, Health Adviser to the Governor-General, Dr. Jose Fabella, Public Welfare Commissioner and member of the Council of Hygiene, Mr. Charles H. Foster, Manager of the Red Cross, and Hon. Camilo Osias, Senator from the Second Senatorial District. Similarly, instructive addresses were given by Dr. Carmelo Peñaflor, Secretary of the Philippine Islands Antituberculosis Society, Mr. Miguel Cuaderno, Director of the Bureau of Supply, Hon. Anastasio Teodoro, Judge of the Court of First Instance, and Hon. Antonio Villa-Real, Justice of the Supreme Court, on the morning of May 10, 1926. The speeches of these prominent officials will be published in the memoirs or transactions of the Convention.

On May 13, 1926, from 10 a. m. to 1 p. m., another general meeting was held to which the delegation of provincial governors and treasurers was invited. In that session, the Director of Health delivered the address of welcome followed by the addresses of Mr. Perez of Tarlac in representation of provincial treasurers, Governor Locsin of Occidental Negros in representation of provincial governors, by Hon. Honorio Ventura, Secretary of the Interior, and by Hon. Alejandro Albert, Acting Secretary of Public Instruction. As a result of this session, a joint hospital committee to establish a definite understanding in connection with the administration of provincial hospitals was designated consisting of Governor Sison of Pangasinan as chairman, and Governor Pascual of Rizal and Mr. Perez of Tarlac as members on the part of the provincial governors and treasurers,

and of Doctor Aguilar as chairman, and Doctors Chiyuto and Santos-Cuyugan as members on the part of the Philippine Health Service.

On the closing day, May 15, 1926, the fifth general session was held. In the program, Dr. Fernando Calderon, President of the Council of Hygiene, Hon. Manuel Roxas, Speaker of the House of Representatives, Hon. Manuel L. Quezon, President of the Senate, and Dr. Jacobo Fajardo, Director of Health, were scheduled to speak. In view of the regretted but justified absence of President Quezon and Speaker Roxas, representatives of Presidents of Sanitary Divisions, of District Health Officers, and of Hospital Physicians, were allowed to talk on the occasion. Accordingly, Dr. Juan B. Goitia, Dr. Pacifico Laygo, and Dr. Enrique F. Ochoa, respectively, spoke in behalf of the delegates.

These general sessions were inspiring and instructive. Moreover, the speeches were so varied that they served to break the monotony and to relax the mental strain due to prolonged attention required in the discussion of the scientific papers and lectures. The programs for the general sessions are in the appendix.

(b) SCIENTIFIC SESSION

There were six scientific sessions held in Burnham Auditorium on May 4, 5, 6, 11, 12, 13, 1926, from 10 a. m., to 1 p. m. During these periods, there were scheduled 32 scientific papers in the program. Of these, only 21 were actually read and the rest read only by title for lack of time. There were other papers which, for lack of space in the program, were not presented.

The papers were of various subjects along administrative and technical lines. For a more specific notion relative to the topics discussed in the scientific meetings, copies of the daily program are included in the appendix.

The delegates were interested in the reading of the papers. Many of them took active parts in the discussion. The scientific articles were on the whole instructive. At least, they may be considered as forerunners of more productive and practical research works that are expected and should, in the last analysis, tend to develop a more sound and scientific public health administration.

(c) LECTURES AND DEMONSTRATIONS

From 8.30 a. m. to 10 a. m. every day during the convention period, two ordinary lectures on various topics were given in Burnham Auditorium, making altogether about 24 lectures.

These were intended to refreshen the delegates of the routine as well as the administrative and technical procedure of public health office. The program was so arranged, as may be seen in the appendix, so as to allow the sanitary and hospital officers to be equally benefited in certain subjects and at the same time to give to each group special instruction that they particularly need. The instructors for these classes were members of the staff and such others who have demonstrated special knowledge and had considerable experience in their actual line of work.

Special lectures and field demonstration were given in almost every afternoon, of usually 3 hours each, and in five evenings, of usually 1 hour each. These afternoon and evening lectures were honored by the presence and valuable contributions of outsiders who are no less specialists in their own line and some of whom are in one way or other connected with the Service. The program may also be seen in the appendix. A great deal of enthusiasm was shown in such gatherings.

Three afternoons, May 5, 6, and 7, 1926, from 3 p. m. to 5 p. m. were spent for joint conferences with the school teachers in the social hall of the teachers' camp under the presidency of the Honorable Acting Secretary of Public Instruction. Five lectures, as may be seen in the program, were given by mostly health officers in the first two afternoons and a business session was held in the last afternoon. The lectures and subjects of discussion were along the problems of intestinal parasitism, skin diseases, malnutrition and weight-height ratio, trachoma and vision test, and school medical inspection—problems that the school and the health service authorities are called upon to solve conjointly. The discussions, which were led mostly by the teachers present, were enlightening and amiable; so much so that, in the business session, 13 joint resolutions were unanimously passed, all tending to establish a basis and mutual understanding between the two authorities while working out in the field such plans that they have in common.

(d) MILITARY INSTRUCTION

About seven mornings, from 6.30 to 7.30 a. m. were spent for military instruction. This consisted of calisthenics during the first 15 minutes and military drills during the rest of the hour in Burnham Park.

Every delegate, except the lecturers, was required to take the military instruction. For convenience and expediency, the whole "health" battallion was divided into 3 companies designated as

"Co. A" under the command of Dr. Jose Rodriguez, "Co. B," under the command of Dr. Enrique F. Ochoa, and "Co. C" under Dr. Bienvenido Caro. The undersigned was designated as the instructor and battallion commander.

The instruction was graded and, in view of the limited time allotted for the purpose, only rudiments of military procedure were given. Thus, 2 hours were devoted to military courtesy and the school of the soldier, 3 hours to the school of the squad, and 2 hours to that of the platoon. Only one company had a considerable practice in the school of the platoon.

On the first day of instruction, the Director of Health had announced that a prize will be offered by him to the company that would drill best in the last general review. This acted as an incentive and created a friendly rivalry between the members of the different companies. Each tried to do their best to acquire the training; so much so that, even amidst rainfall on the afternoon previous to the ordeal, the companies were practicing in the open Burnham Park.

To be impartial, Major Evangelista of the Philippine Constabulary was requested to review the companies and make the rating. On the morning of May 15, 1926, the final test took place. Each company was, one by one, given a chance to display, commanded by their respective company commanders. Major Evangelista marked the company commander and the Company itself on points of precision, teamwork, leadership, and discipline. As a result, and with considerable difficulty since Major Evangelista observed that the companies equally displayed wonderfully during the ordeal, "Co. A" had an average rating of 82.5 per cent, "Co. B" an average of 83.75 per cent, and "Co. C" of 81.25 per cent. It was, therefore, publicly declared that the "Fajardo's prize" was to be awarded to "Co. B." It was further announced that the prize consists of a silver plate in which are inscribed the members of the company and which will be kept in a conspicuous place in the Central Office of the Philippine Health Service.

During the military instruction, the khaki shirt without the rank insignia was worn. Outside of it, strict observance was obligatory to the rules governing uniform. After 5 p. m. every day and all day during holidays, the delegates were required to wear the white uniform on. Discipline was enforced during the period of convention and the result was, on the whole, satisfactory.

(e) BUSINESS SESSION

Aside from the joint session with the teachers as above stated, the delegates held 3 business sessions from 10 a. m. to 1 p. m. on each of the following days: May 7, 14, and 15, 1926. In the first day, 4 resolutions were adopted, on the second day 15, and on the *sine die* 9.

These resolutions were of various subjects, all of which tend to improve the present administration. Since they constitute what may be considered the practical aspect of the convention, the undersigned respectfully transmits, herewith attached, the original copies as submitted by the delegates. These resolutions had been acted upon and approved by the Committee on Resolution before they were read before the Assembly. There were 2 or 3 resolutions approved by the Committee, which were laid on the table. These, together with the rest of the resolutions that were rejected by the Committee, are likewise transmitted, attached to this report, for the purpose of record.

(f) SOCIAL EVENTS

Two main social events occurred during the period of the convention. One consisted of a reception and ball given on May 9, 1926, by the city officials in honor of the delegates and the other a reciprocal courtesy of similar nature given on May 14, 1926, by the delegates in honor of provincial and city authorities. Both were attended by a large crowd from the representative elements of the city and of the "vacationists."

COMMENTS AND RECOMMENDATIONS

The Assembly was on the whole a success. Friendships, "esprit de corps," discipline, and service were fostered. The refresher courses were practical and the scientific papers enlightening. The addresses were inspiring and instructive. The military exercises were liked and enjoyed by almost all the delegates; so much so, that when the Director of Health decided that these exercises were to be given every other day during the first week, many asked the undersigned to request the Director to allow the drills to continue daily as per schedule. They seemed to have taken delight in coming out as early as 6.30 in the morning to receive the first beaming rays of Baguio sun and to inhale the early morning pine breezes.

In short, gathering the impressions of the delegates, expressed both verbally and in writing since the time of departure from

Baguio up to the time of completing this report, the recommendations may be expressed in a nutshell, as follows:

- (a) That health officers' general assembly be held every year.
- (b) That the military exercises be continued during the period of such convention.
- (c) That the addresses of prominent men be secured.
- (d) That the lectures be more practical and illustrative.
- (e) That the scientific papers be shorter, fewer, and properly prepared.
- (f) That the program be given all mornings, up to even 1 p. m., leaving all afternoon free.
- (g) That the evening lectures and demonstrations be cut down to only twice each week.
- (h) That the social obligations and functions be more observed and encouraged.

ACTIONS TAKEN

Immediately upon arrival at Manila, the resolutions were, upon order, fixed up and certified copies thereof sent to the officials and organizations concerned.

Tabulated statement showing action taken on the resolutions

Date expedited	Resolutions	To whom sent
May 26, 1926.....	13 joint resolutions with the teachers.	Director, Bureau of Education.
May 27, 1926.....	Resolution No. 24.....	Secretary, Antituberculosis Society.
May 29, 1926.....	Resolution No. 28.....	His Excellency, the Governor-General.
May 29, 1926.....	Resolution No. 28.....	Honorable Secretary of Public Instruction.
May 29, 1926.....	Resolution No. 28.....	President, Philippine Senate.
May 29, 1926.....	Resolution No. 28.....	Speaker, House of Representatives.
June 3, 1926.....	Resolution No. 10.....	Lieutenant Governor, Baguio.
June 3, 1926.....	Resolution No. 10.....	His Honor, the Mayor of the City of Baguio.
June 9, 1926.....	Resolution No. 26.....	Chairman Committee on Transportation.
June 9, 1926.....	Resolution No. 25.....	Records (proceedings and transactions).
June 10, 1926.....	Resolution No. 18.....	Members of the Staff thru Director of Health.
June 10, 1926.....	Resolution No. 21.....	Public Welfare Commissioner.
June 10, 1926.....	Resolution No. 21.....	Director, Bureau of Education.
June 10, 1926.....	Resolution No. 15.....	Chief, Executive Bureau.
June 10, 1926.....	Resolution No. 15.....	Director, Bureau of Non-Christian Tribes.
June 10, 1926.....	Resolution No. 9.....	Director, Bureau of Public Works.
June 14, 1926.....	Resolution No. 16.....	Chief, Office of Statistics.
June 14, 1926.....	Resolution No. 17.....	Chief, Office of Records and Finance.
June 14, 1926.....	Resolutions Nos. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 19, 20, 22, 23 & 27.	Director of Health for the Legislative Committee, P. H. S.
June 16, 1926.....	Resolutions Nos. 6 and 14..	His Excellency, the Governor-General.
June 16, 1926.....	Resolutions Nos. 6 and 14..	Honorable, Secretary of Public Instruction.
June 16, 1926.....	Resolutions Nos. 6 and 14..	President of the Senate.
June 16, 1926.....	Resolutions Nos. 6 and 14..	Speaker, House of Representatives.

THE HOOKWORM CAMPAIGN CARRIED ON AMONG THE STUDENTS OF THE LOS BAÑOS COLLEGES DURING THE COLLEGIATE YEAR, 1924-1925

By

MARCOS A. TUBANGUI

Assistant Professor of Parasitology, College of Veterinary Science

and

SIXTO A. FRANCISCO

College Physician, College of Agriculture

In July, 1921, the examination of the stools of all students in the Los Baños Colleges, for evidences of intestinal parasitism, was inaugurated by the Department of Parasitology, College of Veterinary Science, and the Medical Department, College of Agriculture. Up to March, 1925, the total number of students examined was 1,025, of whom 649 were examined during the collegiate year, 1921-1922, by Doctors Schwartz and Tubangui. These men have already published the results of their findings.¹ The remaining 376 students were examined by us during the academic year 1924-1925. Our observations on these students are discussed in a paper from which the data and conclusions given in this report have been extracted.

TABLE I.—Results of microscopic examinations

	Students	Percentage
Number examined	376	
Number found infested.....	346	92.02
Number infested with hookworms.....	265	70.47
Number infested with <i>Ascaris</i>	199	52.92
Number infested with <i>Trichuris</i>	214	56.91
Number infested with <i>Oxyuris</i>	16	4.25
Number infested with <i>Enchinostoma floccanum</i>	4	1.06
Number infested with <i>Taenis saginata</i>	2	0.53

The foregoing figures show a very high percentage of infestation, 346, or 92 per cent, of the students examined having been found to be parasitized with one or more kinds of intestinal worms. Naturally, the question will be asked: To what degree

¹ SCHWARTZ, B., and TUBANGUI, M. A.:

1922 a. Uncommon intestinal parasites of man in the Philippine Islands. Philip. Journ. Sci., 20:611.

1922 b. The prevalence of hookworms and other intestinal nematodes in adult Filipinos. Journal of Parasitology, 9:83.

are these parasites a menace to the health and working capacity of the students concerned? The correct answer to this question, if it can be given, will have a significance which will apply, not only to the students of the Los Baños Colleges, but also to all the people of the Philippine Islands who are similarly infested. We had precisely the same question in mind when we undertook our work. Since, however, our observations were directed particularly to hookworms, because of the recognized importance of these nematodes in tropical medicine, the answer which we are able to give will be based on those parasites only.

The procedure followed for the determination of the effects of the parasites on their hosts was: (1) to make a thorough physical and laboratory examination of each infested individual; (2) to expel his hookworms by the administration of a drug of known efficacy (carbon tetrachloride); and (3) to subject him to another series of laboratory examinations two or three months after the treatment. A total of 122 cases were dealt with in this manner, including four laborers from the campus who volunteered to be treated after they had heard from the students of the nature of our work. We were glad to have these men join our series, for they afforded us an opportunity to make comparisons of the hookworm contents of two groups of individuals representing two stations in life.

The carbon tetrachloride was given usually early in the morning and during the three consecutive days succeeding the taking of the drug, the stools were collected in appropriate receptacles and examined daily for the number of hookworms passed.

TABLE II.—*Number of hookworms collected*

STUDENTS		Percentage	
Number treated	118		
Number who passed hookworms.....	118	100	
Total number of hookworms collected.....	5,100		
Average number of hookworms passed.....	43		
LABORERS			
Number treated	4		
Number who passed hookworms.....	4	100	
Total number of hookworms collected.....	1,053		
Average number of hookworms passed.....	263		

TABLE III.—*Species of hookworms collected*

Total number of hookworms collected.....	6,153
<i>Necator americanus</i>	6,010
<i>Ancylostoma duodenale</i>	143
<i>Ancylostoma braziliense</i>	4
<i>Ancylostoma canium</i>	1

From Table II, it is seen that, contrary to the belief of the early writers on tropical medicine in the Philippines, the degree of hookworm infestation among Filipinos is fairly high even among the student class. The fact that very many more parasites were collected from the laborers was to be expected, since, as will be mentioned later on in more detail, hookworm infestation is derived from the soil and persons who habitually go barefooted are most liable to contract the disease.

The data presented in Table III are interesting from several viewpoints; but for our purpose mention will be made that the prevailing and probably the original species of hookworm in the Philippines, as has been observed in most other tropical countries, is *Necator americanus*. The *Ancylostoma duodenale*, on the other hand, was originally found only in cooler places; but has since been carried to the tropics by immigrants. This knowledge is important for the reason that the latter species is more pathogenic than is *Necator americanus*.

It would be an exhibition of medical as well as political farsightedness if some legislation were enacted which would prevent the further introduction of this dangerous parasite into the Philippines. From what evidence we have at the present time, we can say that the Chinese were the people who had brought it over. It will be for the everlasting good of the Filipino people if every foreigner, coming into this country from a place where *Ancylostoma duodenale* is prevalent, is examined carefully and the necessary measures are applied.

The other species of hookworms found are usually found in dogs and cats. *Ancylostoma braziliense* has long been known to be an occasional parasite of human beings in several tropical and subtropical places. *Ancylostoma caninum*, on the other hand, has up to the present time been met with only in the lower animals, so that this notice constitutes the first report of its occurrence in man. Although the presence of these two species in man appears to be only accidental, it is well to bear them in mind when one is engaged in hookworm-eradication work.

TABLE IV.—Effect of hookworms on body weight

Number who gained in weight after treatment.....	85
Number who lost weight after treatment.....	² 29
Number whose weights remained constant.....	20
Number whose weights were not recorded.....	18
Average weight gained in kilos.....	1.6
Maximum weight gained in kilos.....	4
Minimum weight gained in kilos.....	0.5

² Most of the students who registered losses in weight and hæmoglobin after treatment were recovering from either malaria or influenza when their weights were retaken.

TABLE V.—*Effect of hookworms on the hæmoglobin of the blood*

Number who gained in hæmoglobin after treatment..	52
Number who lost in hæmoglobin after treatment....	'7
Number whose hæmoglobin reading was not taken after treatment	18
Number whose hæmoglobin readings remained constant	45
Average hæmoglobin percentage gained.....	14
Maximum hæmoglobin percentage gained.....	35
Minimum hæmoglobin percentage gained.....	0.5

It was the consensus of opinion among the early writers on tropical medicine in the Philippines that the Filipino people are immune against the effects of hookworms. In other words, it was believed that the hookworm disease does not exist locally. This belief has been disproved by Doctor Leach of the International Health Board who has reported several cases of the malady in Cebu. In our work, although we did not find the characteristic symptoms of the disease among the students and laborers we treated, the data which we have presented in Tables VI and V are positive proofs of the harmful effects of hookworms on Filipinos.

TABLE VI.—*Effect of hookworms on scholarship*

Number of dull or backward students ¹	102
Number of dull students infested with hookworms.....	32

Frequent complaint which we used to hear from many students of the College of Agriculture is the feeling of dizziness or sleepiness whenever they began to read their lessons in the evening. Aware of the fact that one of the manifestations of the presence of hookworms is a tendency to mental apathy, we suspected that the parasites might be at least a contributory cause. In order to test our supposition, we obtained, through the courtesy of the Registrar of the College of Agriculture, a list of dull or backward students whose parasitological records we subsequently consulted from our files. Our findings are found in condensed form in Table VI. The data presented make it probable that hookworms might have had something to do with the cases of some of the dull students, although at the present time we cannot make such a statement positively because of the lack of additional and conclusive evidence. When it is considered, however, that a healthy mind usually develops in a healthy body and that the majority

¹ Most of the students who registered losses in weight and hæmoglobin after treatment were recovering from either malaria or influenza when their weights were retaken.

² In the College of Agriculture, students who are poor in scholarship are divided into the following classes: "on probation," "delinquent," and "extremely delinquent." In our report, we use the term "delinquent" to include the three classes.

of these students were suffering from the effects of hookworm infestation, as shown in Tables IV and V, we should expect that we could not have said anything very far from the truth. We realize, of course, that there are many other reasons which may be responsible for deficiency in scholarship, but to our mind disease should always be counted as one of the causes.

DISTRIBUTION OF HOOKWORM CASES IN THE PHILIPPINES

Under this heading, we should draw the distinction between "incidence of hookworm infestation" and "degree of hookworm infestation." The former indicates a certain percentage among a group of individuals who are found by the microscopic examination of the stools to be infested with the parasites. The latter signifies, not only the percentage of individuals parasitized, but gives also the number of hookworms harbored by each person. It can be seen from the definitions given that a knowledge of the degree of infestation gives more information and should, therefore, be the more desirable and furthermore be the more practical. For this reason, we shall base our findings on distribution on the degree of infestation.

Although hookworm cases appear to be very widely distributed in the different parts of the Philippines, our records show that the most heavily infested places are in the provinces of Albay, Bohol, Laguna, Tayabas, Batangas, and Camarines Sur. Why this fact is so, we can only surmise until we have had an opportunity to study those provinces more thoroughly. The reason is probably explained by the peculiar life-history of the parasites which during their larval stages live in the ground. They develop best in moist soil which is shaded and rich in humus. After attaining the infections stage, they gain entrance into the human system by penetrating through the skin of the feet especially, or less frequently, by way of the mouth.

While all of the foregoing conditions are to be met with in many parts, it would seem that those places where shady trees abound and which are frequented by persons would be the most favorable spots for the successful development of the parasites. Among such places in the Philippines will be those where coconuts are grown in large numbers and the provinces which we have mentioned are all coconut regions.

MISCELLANEOUS

* The position of superintendent, Public Health Nursing Section which was vacated by Mrs. Carmen R. Leogardo, was filled in by Miss Genara S. Manongdo.

ALBAY

The yaws campaign in Catanduanes is being continued, 461 injections having been given in Virac during the month. Doctor Chaves is now in the northern part of the island, and tho the number of cases treated there has not yet been reported, it is undoubtedly very large. This work will be carried on vigorously until the island is free of the disease. More attention can be devoted to it in the future, insomuch as Doctor Chaves is no longer alone there, Doctor Florencio N. Pobre having reported there for duty as President of the Eighth Sanitary Division.

ANTIQUE

Measles and gastro-intestinal diseases were prevalent in several towns of the province.

BATAAN

A systematic dysentery campaign in Samal, Orani, Balanga, and Abucay was conducted. The Health personnel district was busy making a house-to-house inspection for the detection of communicable diseases, especially dysentery.

The district health officer conferred with the Municipal Councils of Abucay, Samal, and Pilar on the necessity of adopting a uniform sanitary code.

BATANGAS

Three thousand seven hundred fourteen persons were injected with pure cholera and 315 persons with mixed vaccine; 46 conferences were given by presidents sanitary divisions and district nurses; 170 new Antipolo closets were constructed in 13 municipalities and 4,819 school children were physically examined.

BOHOL

Some houses were found not duly provided with Antipolo system of closets. There were also some children under one year of age found without positive marks of smallpox vaccination. There was given a sort of informal conference to the barrio people concerning the importance of sanitation and hygiene in general.

BULACAN

Tropical ulcers occurring in Bustos have all been treated.

BUKIDNON

The sanitary inspection and physical examination of school children were made in the barrio of Malaybalay.

CAGAYAN

Malaria, diarrhea, and enteritis and acute bronchitis prevailed during the month.

CEBU

Conference was had with the authorities of different municipalities regarding the contribution for the proposed leprosarium. Different sites for leprosarium were inspected together with Doctor J. Rodriguez of the Culion Leper Colony.

COTABATO

Measles and chicken pox appeared in sporadic form in the municipality of Cotabato.

DAVAO

The physical examination of school pupils was conducted during the month. The installation of Antipolo toilets and flushed closets in all restaurants of Davao was effected.

ILOCOS NORTE

Intestinal diseases threatened to spread all over the district. Three were diagnosticated, however, as acute gastroenteritis cases. Inoculation with anti-cholera vaccine was intensified.

An epidemic of dysentery occurred in Badoc. An educational mass campaign was undertaken.

The municipal council approved an ordinance prohibiting social gatherings in which beverages and foods were served.

LANAO

The construction of Mumungan Dispensary is about half finished. The market in Iligan has been greatly improved by the President of Sanitary Division. Uniform and well-painted tables are now being used. In order to avoid the entrance of dogs, the market is now surrounded with a wire fence.

LA UNION

Two emergency hospitals were opened, one in Naguilian and the other in Bauang for dysentery patients.

MINDORO

School children were given physical examination. Presidents of sanitary divisions gave lectures in the local dialect on the use and manner of administration of quinine which is being distributed by school teachers at a very low cost.

MISAMIS

Quinine tablets were freely distributed and treatments of patients suffering from dysentery were given.

NUEVA VIZCAYA

The amount of four hundred fifty pesos (P450) was appropriated by the Municipal Council of Solano for the construction of a dispensary

building. Part of the materials needed for the construction of the building will be contributed freely by the municipal councilors of the town. Two more barrio dispensary buildings one at Ibung and one at Udianan, municipality of Solano, were completed. Construction will soon commence on the dispensary building of barrio Aggub. Other dispensary buildings have been constructed one in Almaguer and one in Indiana, barrios of Bambang; one in Tabuong and one in Comon, barrios of Aritao; one in Bagbag of the same municipality of Dupax; and one in Rumangay, barrios of Bagabay. The total number of barrio dispensary buildings now completed is thirteen.

ORIENTAL NEGROS

The Bobo Spring was inspected in connection with the proposed water-work system of Guihulnigan and Libertad. Another Spring was also inspected for the proposed waterwork system of Manjuyod.

PANGASINAN

Immunization work against cholera, campaign for the control and eradication of dysentery, enteritis, and malaria were the most outstanding feature of the work during the month.

SORSOGON

Three thousand vaccinations against smallpox and 2,187 injections against cholera and typhoid were performed in the district. Three persons were treated with pasteur antirabic vaccine.

During the month 157 patients were treated in the public dispensaries, 8 Philippine Constabulary recruits, and 2,000 school pupils were examined.

TARLAC

During June, the total number of deaths was 419, 139 of which were among infants. There was a slight increase in the total number of deaths as compared with that of last month.

The total number of persons vaccinated were: Smallpox vaccination 3,584 vaccinated, 2,714 inspected. Cholera vaccination—for the first injection, 3,757, for the second injection, 2,203. Cholera-and-typhoid vaccination—for the first injection 1,105, and for the second injection 1,469.

ZAMBOANGA

During the month of June, 617 smallpox vaccinations were performed, 372 of which were inspected, and 74 found positive.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of July, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹

BY NATIONALITIES

Nationality	Population
Americans.....	8,134
Filipinos.....	290,009
Spaniards.....	1,955
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	316,266

¹ Estimated on the basis of last figures published by the Census Office.

Districts	Population
No. I. MEISIC:	
1. Tondo.....	79,705
2. San Nicolas.....	28,792
3. Binondo.....	17,898
Total.....	125,895
No. II. SAMPALOC:	
4. Santa Cruz.....	51,565
5. Quiapo.....	15,658
6. San Miguel.....	4,377
7. Sampaloc.....	39,186
Total.....	110,786
No. III. PACO:	
8. Port Area.....	4,754
9. Intramuros.....	14,437
10. Ermita.....	15,931
11. Malate.....	16,259
12. Paco.....	15,830
13. Pandacan.....	5,785
14. Santa Ana.....	6,589
Total.....	79,585
Grand total.....	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, JULY, 1926**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
	mm.	°C.	°C.		°C.		8 a. m. mean	2 p. m. mean
1-10.....	758.36	27.4	34.6	3	23.1	6	30.9	31.1
11-20.....	56.56	27.1	33.9	11	23.1	14	30.5	30.6
21-31.....	58.26	26.7	32.6	30	22.5	22	30.1	30.3

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	81.0	86.9	9	71.4	1
11-20.....	84.5	91.2	15	80.5	11
21-31.....	85.1	90.1	21	80.5	26

Date	Prevailing direction	Wind			Atmidometer ³ (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Kms.	Kms.		mm.	mm.	
1-10.....	E quad.	1,404.0	219.0	5	31.1	5.6	1
11-20.....	SW	2,558.5	636.5	20	24.6	3.7	17
21-31.....	NE, E	1,652.5	314.5	21	25.4	3.6	30

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	53 35	8 00	1	40.6	8
11-20.....	32 00	7 45	11, 18	91.4	9
21-31.....	27 45	5 20	25	86.9	8

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE
CITY OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	8	7	15	56.39
Filipinos.....	611	512	1,123	45.62
Spaniards.....	3	3	6	36.16
Other Europeans.....	4	2	6	62.78
Chinese.....	28	33	61	40.25
All others.....	2	10	12	64.68
Total and average.....	656	567	1,223	45.56

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I. MEXIC:							
1. Tondo.....	171	123	294	15	5	20	314
2. San Nicolas.....	36	46	82	1	1	2	84
3. Binondo.....	24	24	48	2	.....	2	50
Total.....	231	193	424	18	6	24	448
No. II. SAMPALOC:							
4. Santa Cruz.....	60	76	136	11	8	19	155
5. Quiapo.....	20	18	38	.....	1	1	39
6. San Miguel.....	12	12	24	.....	2	2	26
7. Sampaloc.....	100	81	181	5	7	12	193
Total.....	192	187	379	16	18	34	413
No. III. PACO:							
8. Port Area.....	1	1	2	.....	1	1	3
9. Intramuros.....	48	26	74	1	1	2	76
10. Ermita.....	44	28	72	1	1	2	74
11. Malate.....	56	44	100	2	4	6	106
12. Paco.....	26	33	59	3	4	7	66
13. Pandacan.....	8	8	16	.....	1	1	17
14. Santa Ana.....	9	9	18	.....	2	2	20
Total.....	192	149	341	7	14	21	362
Grand total.....	615	529	1,144	41	38	79	1,223

Attended by physicians, living, 388; stillbirths, 27. Attended by midwives, living, 70; stillbirths, 2. Attended by families, living, 765; stillbirths, 27.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA

BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....				
Filipinos.....	437	405	842	34.21
Spaniards.....	3	1	4	24.11
Other Europeans.....	1	1	2	20.98
Chinese.....	18	6	24	15.84
All others.....	4	2	6	32.34
Total and average.....	463	415	878	32.71

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA

BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I. MEISIC:			
1. Tondo.....	156	160	316
2. San Nicolas.....	40	22	62
3. Binondo.....	12	6	18
Total.....	208	188	396
No. II. SAMPALOC:			
4. Santa Cruz.....	79	65	144
5. Quiapo.....	6	12	18
6. San Miguel.....	11	6	17
7. Sampaloc.....	80	75	155
Total.....	176	158	334
No. III. PACO:			
8. Port Area.....	1	3	4
9. Intramuros.....	8	5	13
10. Ermita.....	6	7	13
11. Malate.....	29	32	61
12. Paco.....	18	8	26
13. Pandacan.....	9	7	16
14. Santa Ana.....	8	7	15
Total.....	79	69	148
Grand total.....	463	415	878

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF
MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	129	99
Divorced.....		
Widowed.....	35	55
Single.....	390	317
Conditions not stated.....	2	1
Total.....	556	472
Grand total.....	1,028	

Stillbirths.....	56
Number of deaths with medical attendance.....	698
Number of deaths without medical attendance.....	330

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	126	102	13	16	257
1 year plus.....	84	84	11	3	182
2 years plus.....	27	44	2	3	76
3 years plus.....	12	19	1	1	33
4 years plus.....	12	5		1	19
5 years to 9 years.....	19	9	3	7	38
10 years to 14 years.....	10	2	1		13
15 years to 19 years.....	15	11		3	29
20 years to 24 years.....	20	13	8	5	46
25 years to 29 years.....	16	19	8	2	45
30 years to 34 years.....	17	9	8	1	35
35 years to 39 years.....	9	13	6	7	35
40 years to 44 years.....	11	13	6	1	31
45 years to 49 years.....	12	9		1	27
50 years to 54 years.....	9	9	5		23
55 years to 59 years.....	18	6	4	3	31
60 years to 69 years.....	17	8	3		28
65 years to 69 years.....	8	12	5	1	26
70 years to 74 years.....	4	8			12
75 years to 79 years.....	6	5	1		12
80 years to 84 years.....	2	6			8
85 years to 89 years.....	4	3		1	8
90 years to 94 years.....	4	3			7
95 years to 99 years.....	1		1		2
100 years and over.....		3			3
Age not stated.....					
Total.....	463	415	92	56	1,026

NOTE: One (1) male Filipino, age unknown and one female Filipino, 80 years, permanent residence unknown not included in the above table.

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
5	a. Typhoid fever:			4	1									5
	Malaria:													
	a. Malarial fever:			3	1					1				4
7	b. Malarial cachexia:													1
9	Measles:			1	2									3
10	Whooping cough:			1	1									2
11	Diphtheria:			2	1									3
	Influenza:													
	b. Without pulmonary complications specified:			2	3					2				7
14	Asiatic cholera:			1										1
16	Dysentery:													1
	a. Amœbic:			3	2					1				6
	b. Bacillary:			25	14									40
	c. Unspecified or due to other causes:			9	6	1					1			16
20	Leprosy:			1	1									2
21	Erysipelas:													
25	Other epidemic and endemic diseases:				4									4
	c. Others under this title:				1									1
29	Tetanus:													
	a. Umbilical:				3									
31	Tuberculosis of the respiratory system:			2	3									5
32	Tuberculosis of the meninges and central nervous system:			66	64					2		1		134
33	Tuberculosis of the intestines and peritoneum:			4	3									7
34	Tuberculosis of the vertebral column:			4	1					2				7
36	Tuberculosis of other organs:			1										1
	c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted):													
	d. Tuberculosis of the genitourinary system:			2	1									2
38	Syphilis:			2										2
43-69	<i>II. General diseases not included in class I</i>													
43	Cancer and other malignant tumors of the buccal cavity:			1										1
44	Cancer and other malignant tumors of the stomach, liv. r:			2	1					1				4

144	Puerperal hemorrhage.....	2																		2
146	Puerperal septicemia.....	3																		3
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>																			
152	Furuncle.....	1																		1
154	Other diseases of the skin and annæxa.....	1																		1
160-163	<i>XII. Early infancy</i>																			
160	Congenital debility, icterus, and sclerema.....	19	12																	33
161	Premature birth; injury at birth:																			
	a. Premature birth (not stillborn).....	1	3																	5
	b. Injury at birth (not stillborn).....	2																		2
162	Other diseases peculiar to early infancy.....	2	1																	3
164	<i>XIII. Old age</i>																			
164	Senility.....	13	15																	29
165-203	<i>XIV. External causes</i>																			
168	Suicide by hanging or strangulation.....	1																		1
182	Accidental drowning.....	2																		2
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):																			
	a. Railroad accidents.....	1																		1
	c. Automobile accidents.....	1																		1
	f. Injuries by other vehicles.....	1																		1
198	Homicide by cutting or piercing instruments.....	1																		1
204-205	<i>XV. Ill-defined diseases</i>																			
205	Cause of death not specified or ill-defined:																			
	a. Ill-defined.....	1																		1
	b. Not specified or unknown.....																			1
	Total.....	437	405	3	1	1	1	1	1	18	6	4	2							878
	Grand total.....		842	4		2				24		6								878

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
143-150	<i>VIII. The puerperal state</i>													
144	Puerperal hemorrhage.....				1									1
146	Puerperal septicemia.....				1									1
147	Puerperal phlegmasia alba dolens, sudden death.....				1									1
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
152	Furuncle.....			1										1
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema.....				1									1
164	<i>XIII. Old age</i>													
164	Senility.....			1	1									2
165-203	<i>XIV. External causes</i>													
198	Homicide by cutting or piercing instruments.....			1										1
	Total.....	1	1	82	55			1	1	9				148
	Grand total.....	1		137				1		9				148

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough.....					1	1
16. Dysentery:						
b. Bacillary.....					5	5
c. Unspecified or due to other causes.....					1	1
21. Erysipelas.....					2	2
25. Other epidemic and endemic diseases:						
c. Others under this title.....				1		1
29. Tetanus:						
a. Umbilical.....				4	1	5
31. Tuberculosis of the respiratory system.....					2	2
32. Tuberculosis of the meninges and central nervous system.....					3	3
55. Beriberi.....				7	41	48
56. Rickets.....					2	2
71. Meningitis:						
a. Simple meningitis.....					3	3
74. Cerebral hemorrhage, apoplexy:						
a. Cerebral hemorrhage.....					1	1
80. Infantile convulsions.....				1	2	3
90. Other diseases of the heart.....					1	1
97. Diseases of the nasal fossae and their annexa:						
a. Diseases of the nasal fossae.....					1	1
99. Bronchitis:						
a. Acute.....				1	28	29
b. Chronic.....					3	3
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....					45	45
b. Capillary bronchitis.....					2	2
101. Pneumonia:						
a. Lobar.....					1	1
112. Other diseases of the stomach (cancer excepted).....					2	2
113. Diarrhea and enteritis.....					47	47
116. Diseases due to other intestinal parasites:						
c. Nematodes (other than ancylostoma).....					1	1
128. Acute nephritis.....					1	1
129. Chronic nephritis.....					1	1
131. Other diseases of the kidneys and annexa.....					1	1
154. Other diseases of the skin and annexa.....					1	1
160. Congenital debility, icterus, and eclerema.....	16	3		8	7	34
161. Premature birth; injury at birth:						
a. Premature birth (not stillborn).....	5					5
b. Injury at birth (not stillborn).....	2					2
162. Other diseases peculiar to early infancy.....				3		3
Total.....	23	3		25	206	257

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	22,289
Number of rats caught by spring traps.....	2,817
Number of cage wire traps set.....	682
Number of rats caught by cage wire traps.....	11
Number and kind of baits (coconuts).....	22,971
Number of poison portions placed.....	20,571
Number of rats found poisoned.....	237
Number of rats killed by clubs and other weapons.....	1,038
Number of rats found dead from other causes.....	567
Total number of rats otherwise caught, found dead, or killed.....	4,870
Total number of rats sent to the Laboratory for examination.....	4,870
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF JULY, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.....	2	1	1	.....	.....	.....	.....	2	1	1	.....	3	1
	No. 2.....	1	1	1	.....	.....	.....	.....	1	1	1	.....	2	1
	No. 3.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
	No. 4.....	6	1	1	.....	.....	.....	.....	6	1	1	.....	8	2
II.	No. 5.....	1	1	1	.....	.....	1	1	1	1	2	1	1	1
	No. 6.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 7.....	5	.....	2	.....	.....	.....	.....	5	.....	2	.....	7	.....
	No. 8.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 9.....	2	.....	2	.....	.....	.....	.....	2	.....	2	.....	4	.....
III.	No. 10.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
	No. 11.....	2	.....	1	.....	.....	.....	.....	2	.....	1	.....	3	.....
	No. 12.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 13.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 14.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Grand total.....	20	4	9	.....	.....	1	1	20	4	10	1	30	5

REMARKS:

Cases confirmed as typhoid fever.....

Cases confirmed as paratyphoid fever.....

By autopsy.....

By blood culture.....

By Widal reaction.....

By urine examination.....

By feces examination.....

By clinical symptoms.....

Cases reported among non-resident persons not included in the table.....

Deaths reported among non-resident persons not included in the table.....

Typhoid carrier—10

29

1

18

7

DYSENTERIES REPORTED DURING THE MONTH OF JULY, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.....	No. 1.....	17	5	14	3	8	13	8	30	13	22	7	52	20
	No. 2.....	1	1	3	2	3	3	3	4	3	3	2	7	5
	No. 3.....	2	1	1	1	1	1	1	2	1	1	1	3	3
	No. 4.....	24	6	9	1	3	3	4	27	9	13	5	40	14
	No. 5.....	3	1	5	1	1	1	1	3	1	5	1	8	1
II.....	No. 6.....	11	4	9	1	4	4	1	15	8	10	2	25	10
	No. 7.....	6	1	1	1	1	1	1	7	2	4	3	11	3
	No. 8.....	2	1	1	1	1	1	1	2	1	1	1	3	3
	No. 9.....	3	1	2	1	1	1	1	4	1	5	3	9	4
	No. 10.....	2	1	1	1	1	1	1	3	3	1	1	4	3
	No. 11.....	2	2	1	1	1	1	1	1	1	1	1	1	1
	No. 12.....	1	1	1	1	1	1	1	2	1	1	1	2	1
	No. 13.....	1	1	1	1	1	1	1	2	1	1	1	2	1
	No. 14.....	1	1	1	1	1	1	1	2	1	1	1	2	1
	Grand total.....	73	18	45	10	27	21	20	100	39	65	23	165	62

REMARKS:

Amoebic dysentery.....

8

Bacillary dysentery.....

114

Unspecified.....

43

Cases reported among non-resident persons not included in the table.....

47

Deaths reported among non-resident persons not included in the table.....

18

Dysentery carrier-8.

CHOLERA REPORTED DURING THE MONTH OF JULY, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female			Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths			
I.....	No. 1.....																			
	No. 2.....																			
	No. 3.....																			
II.....	No. 4.....	1		1									1		1				2	1
	No. 5.....																			
	No. 6.....																			
III.....	No. 7.....																			
	No. 8.....																			
	No. 9.....																			
Grand total.....	No. 10.....																			
	No. 11.....																			
	No. 12.....																			
Grand total.....	No. 13.....																			
	No. 14.....																			
	Grand total.....	1	1	1									1	1	1	1			2	1

REMARKS:

Three non-resident cases from the province of Rizal brought to Manila for treatment, are not included in the table. One of them died in the hospital.

Cholera carrier—23

DIPHTHERIA REPORTED DURING THE MONTH OF JULY, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I. { No. 1. No. 2. No. 3.	1		2	1					1		2	1	3	1
II. { No. 4. No. 5. No. 6. No. 7. No. 8. No. 9. No. 10. No. 11. No. 12. No. 13. No. 14.	2	1	2						2	1	2		4	1
	1	1	2						1	1	2		3	1
			1								1		1	
			2								2		2	
			3						1		2		3	
	1								1		3		4	
	1													
Grand total.	9	2	14	1					6	2	14	1	20	3

REMARKS:

Cases reported among non-resident persons not included in the table 3

Deaths reported among non-resident persons not included in the table 0

Diphtheria carrier—10

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE CITY
OF MANILA DURING THE MONTH OF JULY, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	20	6	4	1
Varicella.....	3	1		
Varioloid.....				
Smallpox.....				
Measles.....	7	6	1	
Whooping cough.....	1	2	1	2
Influenza.....	28	11	4	3
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	177	184	69	65
Tuberculosis of all forms.....	15	5	13	5
Beriberi, infantile.....	23	18	23	18
Beriberi, adult.....		1		1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	17	2		
Varicella.....				
Varioloid.....				
Smallpox.....				
Measles.....	1	1	1	
Whooping cough.....	1	1		1
Influenza.....	8	1	1	
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	41	22	15	7
Tuberculosis of all forms.....	1	1		1
Beriberi, infantile.....	4	3	4	3
Beriberi, adult.....				

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR
THE MONTH OF JULY, 1926**

Sera and vaccines	On hand July 1, 1926	Received during the month	Total to be accounted for	Distrib- uted during the month	Remain- ing at the end of the month
Anti-diphtheric serum (units).....	130,000	500,000	630,000	200,000	430,000
Anti-dysenteric serum (ampoules).....	62	1,300	1,362	1,244	118
Anti-tetanic serum (units).....	585,000	577,000	1,162,000	477,000	685,000
Cholera serum (ampoules).....		20	20	20	
Cholera vaccine (c. c.).....	780	324,860	325,640	294,320	31,320
Dried vaccine virus (units).....	88,900	100,000	188,900	97,400	91,500
Fresh vaccine virus (units).....	117,800	200,000	317,800	185,600	132,200
Gonococcus vaccine (ampoules).....		185	185	185	
Mixed typhoid-cholera vaccine (c. c.).....	4,500	150,000	154,500	150,600	3,900
Normal horse serum (ampoules).....		50	50	50	
Typhoid vaccine (c. c.).....	12,290	13,170	25,460	20,700	4,760

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF JULY, 1926

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated							
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over		Total	
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Positive	Negative	
No. 1.	Tondo.....	299	262	9	37	415	37	3				38
	San Nicolas.....	230	139		82	163	16	74		1	448	35
	Binondo.....	93	77		16	82	11	18	13	10	250	16
	Santa Cruz.....	181	177		4	148	5	2	1	5	101	5
	Quiapo.....	56	50		6	46	5	2			150	5
No. 2.	San Miguel.....	17	16		1	9	3				48	3
	Sampaloc.....	1,271	225	263	783	108	1	58	402	106	568	109
	Port Area.....											
	Intramuros.....	26	23		3	29	4				29	4
	Ermita.....	56	53		2	53	3				53	3
No. 3.	Malate.....	123	116		7	133	7	7			140	7
	Paco.....	122	115		7	57	7	22	26	4	106	13
	Pandacan.....	159	44	52	63	33	2				33	2
	Santa Ana.....	3	1	2	2	15	1				15	1
	Total.....	2,635	1,298	324	1,013	1,321	102	186	442	126	1,949	241

VACCINE VIRUS: Received, 13,500; used, 5,500; remained, 8,300.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	Total vaccina- tions	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	29,559	3,882	17,543	8,134
Agusan.....	5,896	1,197	3,177	1,522
Albay.....	17,707	6,304	2,473	8,930
Antique.....	64,304	11,048	37,642	15,614
Bataan.....	7,926	2,824	2,569	2,533
Batanes.....	2,606	157	653	1,796
Batangas.....	35,019	8,175	12,412	14,432
Bohol.....	27,918	6,124	9,572	12,222
Bukidnon.....	2,496	603	888	1,005
Bulacan.....	40,884	6,658	28,542	5,684
Cagayan.....	19,310	3,989	7,963	7,358
Camarines Norte.....	3,970	1,614	1,102	1,254
Camarines Sur.....	83,674	10,835	55,838	17,001
Capiz.....	75,426	20,331	43,195	11,900
Catanduanes.....	9,596	1,775	2,306	5,515
Cavite.....	17,515	3,906	7,683	5,926
Cebu.....	82,833	24,438	21,901	36,494
Cotabato.....	12,881	4,228	3,694	4,959
Davao.....	3,917	1,412	913	1,592
Ilocos Norte.....	19,745	5,001	5,947	8,797
Ilocos Sur.....	22,584	4,943	4,210	13,431
Iloilo.....	51,880	20,022	15,940	15,918
Isabela.....	70,454	15,657	8,663	46,134
Laguna.....	20,195	5,271	9,516	5,408
Lanao.....	2,574	846	1,010	718
La Union.....	17,740	3,560	1,224	12,956
Leyte.....	39,985	14,951	3,442	21,592
Marinduque.....	7,379	1,345	2,339	3,695
Masbate.....	6,906	2,179	1,414	3,313
Mindoro.....	47,333	8,964	31,354	7,015
Misamis.....	65,626	10,922	36,835	17,869
Mountain Province.....	14,898	5,143	5,250	4,505
Nueva Ecija.....	25,105	7,836	5,655	12,114
Nueva Viscaya.....	11,284	1,047	7,179	3,058
Occidental Negros.....	28,889	12,534	5,122	6,233
Oriental Negros.....	22,497	5,914	7,785	8,798
Palawan.....	4,005	2,174	1,433	398
Pampanga.....	31,594	5,435	14,051	12,108
Pangasinan.....	47,238	13,045	10,803	23,890
Rizal.....	59,911	11,638	38,467	9,806
Romblon.....	2,270	768	625	877
Samar.....	96,020	18,817	54,914	22,289
Sorsogon.....	16,009	6,685	155	9,169
Sulu.....	8,700	4,350	2,161	2,189
Surigao.....	37,602	10,880	15,375	11,347
Tarlac.....	20,506	3,801	12,452	4,253
Tayabas.....	24,724	9,572	7,309	7,843
Zambales.....	6,758	1,613	1,920	3,225
Zamboanga.....	8,529	1,806	3,753	2,970
Total.....	1,377,377	335,719	576,369	465,289

¹ Incomplete; reports from other provinces not yet received.

Vaccinations performed by the vaccinating-parties are included in the above table.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive	Posi- tive	Nega- tive
Abra.....	780	376	4,427	1,442	11,708	6,743	16,915	8,561
Agusan.....	197	105	450	192	957	772	1,604	1,069
Albay.....	2,807	838	2,658	706	2,722	1,188	8,187	2,727
Antique.....	2,382	570	6,038	3,240	13,361	21,621	21,731	25,431
Bataan.....	1,437	246	2,426	963	1,521	820	5,384	2,029
Batanes.....	140	70	438	191	1,109	466	1,687	727
Batangas.....	2,960	438	6,075	1,852	7,682	6,225	16,717	8,510
Bohol.....	3,183	977	4,886	2,055	7,907	6,588	15,476	9,620
Bukidnon.....	62	13	117	72	786	404	965	489
Bulacan.....	3,555	472	4,987	1,898	14,945	11,484	23,487	13,854
Cagayan.....	1,318	321	3,147	1,007	6,832	5,214	11,297	6,542
Camarines Norte.....	492	133	871	246	1,101	420	2,464	799
Camarines Sur.....	3,407	714	8,529	1,943	28,910	14,100	40,846	16,757
Capiz.....	3,462	652	7,677	1,831	31,043	14,002	42,182	16,485
Catanduanes.....	850	415	942	518	1,534	1,009	3,326	1,942
Cavite.....	3,256	357	2,610	648	6,924	3,622	12,790	4,627
Cebu.....	6,117	2,388	7,845	2,763	11,273	9,022	25,235	14,173
Cotabato.....	184	104	788	533	2,612	2,094	3,584	2,731
Davao.....	153	60	447	255	1,553	906	2,153	1,221
Ilocos Norte.....	2,267	445	4,085	1,212	4,744	4,601	11,096	6,258
Ilocos Sur.....	3,287	776	4,020	1,661	3,815	3,848	11,122	6,285
Iloilo.....	4,074	568	8,387	1,825	12,061	6,310	24,512	8,703
Isabela.....	1,586	387	6,665	1,839	19,746	14,466	27,997	16,692
Laguna.....	2,508	562	2,432	1,272	4,669	6,627	9,604	8,461
Lanao.....	63	13	127	57	205	157	395	227
La Union.....	1,627	507	2,162	1,690	2,135	3,431	5,924	5,628
Leyte.....	2,310	860	5,173	1,858	7,873	3,035	15,356	5,753
Marinduque.....	386	130	1,066	431	2,319	1,238	3,771	1,799
Masbate.....	543	181	935	488	1,495	1,268	2,973	1,937
Mindoro.....	1,005	109	4,712	650	20,811	9,101	26,528	9,860
Misamis.....	1,647	288	7,087	1,162	26,684	10,045	35,418	11,495
Mountain Province.....	566	265	1,597	647	2,980	1,627	5,143	2,539
Nueva Ecija.....	3,102	604	5,259	1,559	6,300	4,614	14,661	6,777
Nueva Vizcaya.....	414	18	1,375	517	4,705	4,706	6,494	5,241
Occidental Negros.....	3,739	765	4,883	1,422	5,350	2,261	13,972	4,448
Oriental Negros.....	2,025	705	3,404	1,565	6,069	3,532	11,498	5,802
Palawan.....	139	34	236	70	922	591	1,297	695
Pampanga.....	1,970	540	2,613	964	6,982	5,574	11,565	7,078
Pangasinan.....	5,812	1,471	8,442	2,675	10,592	9,000	24,846	13,146
Rizal.....	3,918	811	5,884	2,623	10,851	14,860	20,653	18,294
Romblon.....	143	24	286	91	390	145	819	260
Samar.....	3,227	1,100	12,437	3,433	35,268	12,489	50,932	17,022
Sorsogon.....	1,325	506	2,879	1,186	2,096	1,166	6,300	2,858
Sulu.....	405	93	1,560	445	2,984	1,215	4,949	1,753
Surigao.....	784	452	2,427	1,946	7,072	9,908	10,283	12,306
Tarlac.....	1,812	643	2,868	1,140	4,368	5,900	9,048	7,683
Tayabas.....	2,694	665	4,981	1,291	9,080	4,667	16,755	6,623
Zambales.....	868	179	1,080	605	1,539	2,364	3,487	3,148
Zamboanga.....	465	195	584	398	1,695	2,004	2,744	2,597
Total.....	91,398	23,135	174,504	59,077	380,270	257,450	646,172	339,662

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	25,577	1,642		27,219
Antique.....	9,077			9,077
Bataan.....	17,866	1,616		19,482
Batanes.....				
Batangas.....	171,049	11,731		182,780
Bohol.....	230	222		452
Bukidnon.....	89,136	8,535		97,671
Bulacan.....				
Cagayan.....				
Camarines Norte.....	576	268		844
Camarines Sur.....	14,626			14,626
Capiz.....	91,946			91,946
Catanduanes.....	2,892	423		3,315
Cavite.....	20,845			20,845
Cebu.....	412	22		434
Cotabato.....				
Davao.....	903	505		1,408
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	1,720	796		2,516
Isabela.....				
Laguna.....	100,504	14,331	1,164	115,999
Lanao.....				
La Union.....	8,953	1,458		5,411
Leyte.....	26,648	14,214		40,862
Marinduque.....	49,155	44,864	5,087	99,106
Masbate.....	3,305	1,130		4,441
Mindoro.....	27,986	8,509	220	31,715
Misamis.....				
Mountain Province.....				
Nueva Ecija.....	33,942			33,942
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	146,207	4,167		150,374
Pangasinan.....	244,519			244,519
Rizal.....	137,606			137,606
Romblon.....	7,616	180		7,796
Samar.....	1,457	686		2,143
Sorsogon.....	1,233	34		1,267
Sulu.....				
Surigao.....				
Tarlac.....	5,646	8,684		9,330
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	1,244,935	114,023	6,471	1,365,429

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....	536			536
Albay.....	325	161	92	578
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	350	250	10	590
Bohol.....				
Bukidnon.....				
Bulacan.....	143	68	90	301
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....				
Catanduanes.....	512	180		692
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....				
Laguna.....	688	361	184	1,233
Lanao.....				
La Union.....	1,104	88	141	1,333
Leyte.....				
Marinduque.....				
Masbate.....	664	166		830
Mindoro.....				
Misamis.....				
Mountain Province.....	82	36		118
Nueva Ecija.....				
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	1,460	386	120	1,966
Pangasinan.....	21	21		42
Rizal.....				
Romblon.....				
Samar.....				
Sorsogon.....	59			59
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	5,924	1,717	637	8,278

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA) VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926

Provinces	First injection	Second injection	Third injection	Total
Abra.....	2,217	3,462		5,679
Agusan.....	7,475	2,222		9,697
Albay.....	27	33		60
Antique.....	9,182	2,270		11,452
Bataan.....	215	128		343
Batanes.....	127	84	68	279
Batangas.....	510			510
Bohol.....	1,714	1,512		3,226
Bukidnon.....				
Bulacan.....				
Cagayan.....	5,311	2,498		7,809
Camarines Norte.....	2,601	1,772		4,373
Camarines Sur.....	4,816	2,425		7,241
Capiz.....	440	310		750
Catanduanes.....				
Cavite.....	2,515	341		2,856
Cebu.....	20,878	1,815		22,693
Cotabato.....	567	88		655
Davao.....	208	186		394
Ilocos Norte.....	8,502	1,500	1,144	11,146
Ilocos Sur.....	901	832		1,733
Iloilo.....	14,265	3,382		17,647
Isabela.....	214	146		360
Laguna.....				
Lanao.....	2,277	413		2,690
La Union.....	996	621		1,617
Leyte.....	9,225	2,751		11,976
Marinduque.....	528	102		630
Masbate.....	1,204			1,204
Mindoro.....				
Misamis.....				
Mountain Province.....	1,635	64		1,699
Nueva Ecija.....	230	31		261
Nueva Vizcaya.....	216	199		415
Occidental Negros.....	11,454	7,165		18,619
Oriental Negros.....	2,418	1,142		3,560
Palawan.....				
Pampanga.....	2,157	801		2,958
Pangasinan.....	90	57		147
Rizal.....	1,888	551	251	2,690
Romblon.....				
Samar.....	1,582	918		2,495
Sorsogon.....	326			326
Sulu.....				
Surigao.....	160	120		280
Tarlac.....	23,149	13,100		36,249
Tayabas.....	20,547	6,714		27,261
Zambales.....	3,578	3,246		6,824
Zamboanga.....	2,923	97		3,020
Total.....	169,268	63,043	1,463	233,774

1 Incomplete; reports from other province not yet received.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF JULY, 1926.**

(No case and no death reported during the month)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF JULY, 1926**

Provinces and towns	Cases	Deaths
Camarines Sur:		
Barrio Santol, Iriga	1	1
Pampanga:		
Santa Ana	1	1
Rizal:		
Navotas	1	
Pasay	2	1
Total	5	3

REMARKS:

Cases and deaths from the province of Rizal brought to Manila for treatment, are included in this report.

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF JULY, 1926.**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending, July 1, 1926:				
Minor.....	113	119	83	315
Sewer.....	24	57	4	85
Vacating.....	8	13		21
Filling.....	10	35	15	60
Total.....	155	224	102	481
Orders issued during the month:				
Minor.....	5	18	11	34
Sewer.....	1			1
Vacating.....				
Filling.....			2	2
Total.....	6	18	13	37
Orders completed during the month:				
Minor.....	13	23	8	44
Sewer.....		3	1	4
Vacating.....				
Filling.....				
Total.....	13	26	9	48
Orders cancelled during the month:				
Minor.....	1		1	2
Sewer.....				
Vacating.....				
Filling.....				
Total.....	1		1	2
Orders pending, July 31, 1926:				
Minor.....	104	114	85	303
Sewer.....	25	54	3	82
Vacating.....	8	13		21
Filling.....	10	35	17	62
Total.....	147	216	105	468
Strong material plans approved:				
New buildings including additions and alterations.....	22	39	36	97
Permits for minor building constructions:				
Approved.....	27	52	33	112
Disapproved.....	8	8	6	22
New buildings completed.....	17	17	35	69
Permits for light and mixed material constructions:				
Approved.....	9	20	31	60
Disapproved.....	1	6	11	18
Prosecutions:				
Convictions.....				
Dismissals.....			1	1
Amount of fines.....				
Plumbing permits issued.....	43	72	53	168
Plumbing projects completed.....	45	49	45	139
Premises connected to the sanitary sewer to June 30, 1926.....	2,486	4,222	602	7,310
Connected during the month.....	1	8	5	14
Total.....	2,487	4,230	607	7,324

NOTE.—Meisic includes Tondo, San Nicolas, and Binondo. Sampaloc includes Santa Cruz, Quiapo, and San Miguel. Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
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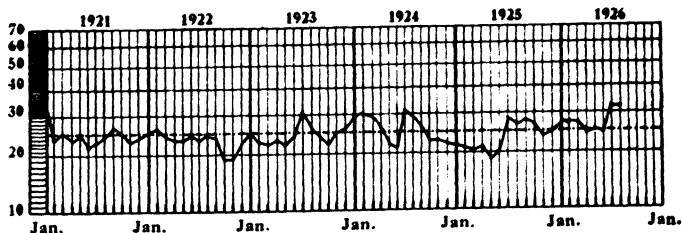
No. 8

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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No. 8

CHOLERA ERADICATION IN ROMBLON PROVINCE

By MAN. MA. AYCARDO, *District Inspector*

A

A system of securing and recording information was beforehand prepared and established. (1) A plan of the *población* of Romblon, showing location of houses, streets, rivers, *esteros*, and wharf, was secured. Previous cases and those that later occurred were marked with ordinary pin. (2) A map of the municipality of Romblon, showing the location of the different barrios for the purpose of keeping tract of the extend of the infected territory and further spread, was used. (3) A system of recording daily cases and deaths, as the occurred in the *población* and barrios, was maintained for record and information purposes for the local and central offices, comprising the period of 24 hours from 8 a. m. to 8 a. m. the following day.

All available personnel of the service was secured, as well as the coöperation of the Insular, provincial, and municipal authorities, employees, volunteers, and others.

The provincial government authorized the temporary employment of five emergency sanitary inspectors and four employees of the provincial motorboat *Luz*; the municipal Council of Romblon authorized the employment of five emergency sanitary inspectors and an expenditure of ₱1,500 for the campaign; the Women's Club detailed a nurse from the local puericulture center; the Red Cross released two nurses for a short time; the Philippine Constabulary lent a *practicante*; the high school furnished volunteers for the immunization campaign and a group of citizens for the detection of suspicious illness.

The health personnel was grouped for hospital and field work, thus:

(1) The hospital was a small nipa house rented for ₱100 as long as the epidemic lasted, located in an isolated site near the beach. Its proximity to the dumping-ground of the town made the hospital site improper. However, in the absence of another place, the garbage was daily burned and disinfected and thus decreased the number of flies. Moreover, the hospital was screened with *saguran*. As the number of cases increased, the number of temporary dwellings was proportionately increased, and patients were separated from convalescents and males from females. The general sanitation of the premises was closely watched, disinfections were frequently made on the discharges, the drinking water was boiled, and an Antipolo closet was built.

The personnel consisted of a resident physician (local president of the sanitary division), a service nurse, a *practicante*, a sanitary inspector as cook, another as disinfecter, and servants, some of whom were prisoners. The Red Cross nurses served also for a while.

(2) As the majority of the cases were registered in the *población*, this section was divided into several districts of such size as to enable a sanitary inspector to inspect each house once a day. For this purpose, six sanitary inspectors were detailed; a disinfecting unit of two men was organized; a disinfecter of dead bodies and specimen collector was detailed; a food inspector and a group of students from the high school were designated as inoculators for the general immunization campaign.

The district inspector and the district health officer as his assistant conducted the technical part of the campaign and enforced the quarantine measures as well.

No sanitary ordinances were submitted to the municipal council concerned; the existing ones were enforced and, from time to time, rules, and regulations in connection with the prevention and suppression of the disease were issued and enforced without the least objection on the part of the public.

House-to-house inspections were daily made by a group of sanitary inspectors for the proper sanitary maintenance of the premises—general cleanliness, protection of food from flies and its handling, the boiling of drinking water, the safe disposal of sewage, and the detection of cases of suspicious illness. The latter was carried on effectively, thanks to the coöperation of the provincial governor who organized a group of detectives among reliable citizens and assigned three and one supervisor

to each of the ten districts into which he divided the town, with the duty of detecting any disease and reporting it to the local health office. The health officers promptly made the examination and diagnosis of the case upon the receipt of the report. Not a few cases were found ready for hospitalization or transfer; and were it not for the prompt action taken by the health officers, many patients would have been brought to the emergency hospital tho the cases were other than those of cholera.

The system of sewage disposal of the community is not wholly satisfactory. In several blocks of the *población* near a brook, a foot deep of water are houses and dirty shacks closely built, and their sanitary conditions are very poor. No system of sewage disposal is available, and only two public closets had been built long ago in two places precisely over the brook. The dejecta is partly washed and emptied into the sea and partly is allowed to remain on the banks of the brook, so that the waste constitutes a real nuisance and source of all infections. In fact, the incidence of cholera in this place is high. The closing of these public closets is fully justified and further delay is unnecessary. A problem, more serious still, faces the health authorities incident to their closing: it will give way and will create more foci of infections, as practically no other system of disposal may be introduced immediately because of present circumstances and topography. Altho another system may be substituted, its financial need and the time required to introduce the new system were not equal to the emergency. Instead, therefore, a morning and afternoon disinfection was performed daily with a view to suppressing all possible infection therein.

Another public closet of the Antipolo type, located on the opposite side of the town, is also available for a greater part of the community. Several houses far from these places are provided with the pail system and very few with the Antipolo or flush-closets.

The source of the water-supply of the *población* is a spring. The water is stored in a cement reservoir watched by a municipal laborer. A main tube connects the reservoir to the different places and houses in the *población*. No other source is available, such as artesian or surface wells.

Despite the good quality of the water, notices directing the public to boil their drinking-water were posted in conspicuous places. Likewise, the public was warned and prohibited from throwing or depositing garbage in the Romblon River, although

it was dry during the epidemic, because it passes thru along the center of the *población*.

Irritating and putrefying foodstuffs were prohibited: thus, the sale of *tuba* (which was excessively used), *bagong*, shellfish, oysters, and others, and the fishing in the shallow brook already mentioned were prohibited. A close supervision of the local market, *tiendas*, *carinderias*, and other places where foodstuffs are manufactured and sold was conducted and care was taken in their handling and protection from flies. Drinks were allowed to be sold only when the water used was boiled or had been previously boiled. Prohibited foodstuffs found offered for sale were condemned, but the infractors were not brought to court.

As mentioned elsewhere in this report, an educational campaign was carried on thru *bandillos*, notices, and posters prepared expressly for the purpose. The house-to-house inspections performed included instructions upon the use of boiled water, the protection of food and drink from flies, the washing of the hands before eating, the use of non-irritating and the avoidance of putrefying foodstuffs, general cleanliness, the burning of the garbage, the proper disposal of sewage, and the prompt report of the slightest symptom of diarrhea among the members of the family.

The use of pure anti-cholera vaccine was limited only to contacts and neighbors of infected premises during the beginning of the epidemic. After my arrival, a general campaign of immunization was organized. With the coöperation of the provincial governor and the unconditional consent of the school authorities, we were able to secure from the high-school volunteer students who rendered efficient and praiseworthy service. These students were properly trained in technique and dosification. Two units were detailed to each of the six districts into which the *población* was divided, a unit consisting of an inoculator and recorder and *vice versa* who undertook the work from house to house until completed. The campaign lasted three days and reached 95 per cent of the people of the *población*.

Sporadic cases were registered then in some more or less distant barrios so that it became advisable to extend the campaign thru the whole municipality, and even thru the whole Island of Romblon. Advantage was again taken of the services of these students and others who even presented themselves personally at the health office.

The number of units assigned to each barrio was in proportion to its inhabitants. The provincial governor even volunteered to accompany and leave each unit at its respective assignment in the different barrios and to return with them within three days after 85 per cent. of the population had been vaccinated.

With a view to immunize, as a preventive measure, the people of Sibuyan, motorboat *W-2* was chartered on December 27. The same high-school student volunteers and a Red Cross nurse, headed by the district inspector and the provincial governor, conducted the immunization campaign in the municipalities of San Fernando and Cajidiocan. On coast barrios, vaccinators were left and taken on board upon the return, while in the interior barrios the units were sent from the town proper. The nurses were limiting their work to the *población* as they were practically useless in the barrios where the bulk of the campaign was being performed.

The volunteers were given subsistence on board and in the barrios at the rate of ₱0.50 daily, paid for by the provincial Red Cross fund, according to the provincial governor. The campaign lasted for three days, or five in all, including the time employed in going to and returning from Sibuyan.

In San Fernando, 78.9 per cent. of the 1918 census population was vaccinated; and in Cajidiocan, 64 per cent.

The success of the campaign is due partly to the procedure adopted by the provincial governor in making the municipal president, police, rural police, barrio *teniente*, and councilor coöperate, and mainly to the insistent interest of the volunteers in obtaining the highest record of vaccinations in their respective assignments. The district inspector and provincial governor, in their rounds of the different barrios, saw how these volunteers worked from house to house in mountainous and inaccessible places, carried their supplies, "hiked," crossing more or less deep rivers and brooks early in the morning till late in the evening.

During the campaign, one or two persons opposed vaccination; but the provincial governor "handled" them accordingly. The municipal president of Cajidiocan, after the campaign, was suspended by the provincial governor for cause.

Late in the afternoon of January 6, the chief, division of Provincial Sanitation, and Major Hitchens, Health Adviser to Governor General, arrived in Romblon on board the steamship *Mindoro*. In the health office, they were shown all the inform-

ation needed, the records of cases and deaths, of vaccinations, plans, maps, etc. They inspected the emergency hospital. The chief of Provincial Sanitation inspected one of the public closets as well as the blocks of insanitary houses mentioned elsewhere in this report. On the morning of January 7 at 8 o'clock, they left Romblon, with the provincial governor and the district inspector, bound for Carmen, then for Badajoz. Vaccinations were performed at Badajoz and then the party returned to Carmen to perform vaccinations there with Major Hitchens personally concerned. The district inspector and the provincial governor, because of a rough sea, were left at Looc and conducted the vaccination campaign in the different barrios. If on the Island of Sibuyan we were able to conduct the campaign with many volunteers from the high school, in Looc the vaccinators had to be the district inspector and the provincial governor themselves. However, within four days we reached 64 per cent. of the total population.

The campaign was extended to the municipalities of Odiongan and Despujol, but not so rapidly as had been expected because of the shortage of supplies, very slow transportation, and the prevailing inclement weather.

While in Odiongan, the district inspector received a telegram from the central office directing the thoro sterilization of the vaccinating needle. A puzzling telegram! The chief, Division of Communicable Diseases, was an eye-witness to the technique adopted; and even the chief of the Division of Provincial Sanitation performed inoculations on several hundred persons in Carmen, including Major Hitchens, Health Adviser to the Governor-General. It is surprising that no one of them has made any hint on the technique to be observed by the district inspector.

B

The quarantine established in Romblon is classed as inter-island or inter-provincial. No person from Romblon was allowed to go either to Manila, Capiz, or to the Islands of Sibuyan and Tablas. Besides, another internal quarantine had been established prior to the arrival of the district inspector, whereby persons from the *población* proper—the infected areas—were prohibited from leaving for the barrios. Entrance to the infected area by persons in the barrios was allowed previous vaccination.

The quarantine, as it was maintained, implied restrictions directly or indirectly upon commerce and personal interest:

upon commerce because coprax, abaca, and other merchandise were not allowed shipment to Manila or elsewhere in view of some of the orders of the Customs authorities; but thanks to the telegram of the Central Office, the restriction was suspended. Personal liberty and interest were restricted because those landing in Romblon were not allowed to leave. The emergency laboratory sent by the Central Office a week after the arrival of the district inspector eased the restriction, as persons free from cholera vibrio upon examination were permitted to leave the infected area.

The Philippine Constabulary rendered distinguished service in connection with the enforcement of quarantine measures, in particular the provincial commander who kept himself in constant touch with the health authorities. The service of this force is highly commendable.

Two persons escaped from the quarantine line and succeeded in going on board the steamship *Negros* while bound for Manila. Her captain, however, upon their discovery without the necessary permit, had to return and re-land them to Romblon. These persons were previously found to be carriers and were prosecuted and fined accordingly.

On January 2 the quarantine was limited only to the Island of Romblon, and persons therein were permitted to go at large, even into the *población*; and on February 3 the interisland quarantine was discontinued by order of the Director of Health, declaring the province free from cholera.

Disinfection was carried on by a special squad. Houses where cases and deaths occurred were thoroly disinfected, including all water-containers. The disinfection was carried on as completely as possible and was even extended to the neighboring houses. In the several blocks where the two public closets are located and where sanitary conditions were exceedingly poor, a general disinfection of each house was made, by detailing a larger disinfecting squad. It took a whole week to complete the work, and thereafter the number of cases in the place decreased. The public closets were disinfected twice a day, as mentioned elsewhere in this report, and the public market was also regularly disinfected. The water-reservoir was once disinfected during the campaign.

Stool examinations were made in all cases and deaths as well as in all contacts. They were even extended to the neighboring houses for the detection of carriers. The number of carriers found—not among contacts—was exceedingly high, both for

agglutinating and non-agglutinating cholera vibrio. At the beginning, all carriers were hospitalized; but because of the lack of room in the emergency hospital, we were forced to leave them in their homes, but isolated properly watched until after three consecutive negative tests had been completed.

The emergency laboratory rendered satisfactory service in the campaign. Through it the campaign was carried on scientifically by lessening restrictions upon personal liberty and interest incident to the quarantine then established.

This report covers the period from December 14, 1925, to February 3, 1926, and contains figures on the incidence and mortality of cholera in Romblon and other information such as maps, plans, records of vaccinations, as well as a list of volunteers from the high school.

The principal of the high school, because of their altruistic and patriotic work as well as a matter of institutional record, granted ten per cent. credit in science to each high-school student who served as volunteer inoculator.

It is recommended that these students be congratulated because of the commendable work performed during the immunization campaign on the Islands of Romblon and Sibuyan.

ANTI-CHOLERA VACCINATION

Municipality and barrios	Total	Census population	Percentage
ROMBLON:			
Poblacion.....	4,618	3,382	136
Agnipa.....	375	329	113
Agnay.....	233	237	97.4
Daluto.....	260	325	80
Agnaga.....	293	253	111
Agpanabat.....	230	313	73.5
Angtongo.....	115	171	67.2
Alad.....	280	343	81.7
Capaclan.....	157	186	84.4
Cahimos.....	248	232	106.8
Calabugo.....	231	297	94.6
Cogon.....	1,048	971	107.9
Lunas.....	295	221	133.4
Logbon.....	102	133	76.6
Lonos.....	240	275	87.2
Lio.....	316	381	82.9
Mapula.....	158	173	91.3
Nogoso.....		294	
Talgi.....	188	133	136
Sawang.....	338	338	100
Sabluyan.....	467	621	75.2
Hinsablong.....	165	279	59
Guimpringan.....	337	300	112.3
Warf.....	533		
Steamboats.....	29		
Total.....	11,446	10,192	112.3

NOTE:—*Población* includes the barrio of Bagacay. Cogon includes the barrios of Ilauran, Lamao, Magcalas, and Tambac.

ANTI-CHOLERA VACCINATION

Municipality and barrios	Total	Census population	Percentage
SAN FERNANDO:			
Poblacion.....	846	947	89.3
Agtiva.....	289	343	82.2
Asagra.....	314	513	61.2
Campaliguo.....	427	490	87.1
Canjalong.....	480	446	107.6
Embarcacion.....		12	
Mabulo.....	518	631	97.6
Panangcalan.....	272	360	75.6
Tacloba.....	264	385	68.6
Espana.....	187	365	37.6
Otod.....	574	624	90.3
Pili.....	304	386	78.7
Total.....	4,425	5,602	78.9

ANTI-CHOLERA VACCINATION

Municipality and barrios	Total	Census population	Percentage
CAJIDIOCAN:			
Poblacion.....	597	443	134.9
Agasao.....	589	758	77.7
Alibangon.....	65	151	43
Tambajao.....	325	511	63.6
Cambalo.....	419	573	78.1
Cambijan.....	387	404	83.4
Danao.....	381	555	69.6
Dulangan.....	238	399	59.6
Ipil.....	418	509	82.1
Lleo.....	200	271	78.8
Magallanes.....	238	408	63.3
Marigondon.....	227	506	44.8
Silum.....		484	
Sogod.....	223	382	58.3
Tagilos.....	385	443	75.6
Gutivan.....	409	529	77.3
Gumbang.....	223	614	36.3
Jaoasan.....	221	539	41
Total.....	5,395	8,429	64

ANTI-CHOLERA VACCINATION

Municipality and barrios	Total	Census population	Percentage
Looc:			
Poblacion.....	1,161	769	150.9
Agoho.....	266	208	127.8
Aicantara.....	1,056	1,718	61.4
Buenavista.....	649	925	70.1
Guinberayan.....	730	998	78.1
Layog.....		59	
Lemon.....			
Pili.....	1,683	1,286	130.8
Punta.....	1,078	1,052	102.4
Santa Fe.....	1,104	1,488	74.1
Tupdan.....	454	943	48.1
Lanas.....			
Apcogon.....	1,088	1,577	68.9
Total.....	9,269	11,021	84.1

ANTI-CHOLERA VACCINATION

Municipality and barrios	Total	Census population	Percentage
ODIONGAN:			
Poblacion	1,001	1,088	92
Mayha.....	310	738	42 1
Caboboan.....			
Tulay.....	947	1,986	47 6
Libertad.....			
Gabauan.....			
Tumingat.....	859	1,005	85 4
Ferrol.....			
Tubigon.....			
Hinagungmang.....			
Amatong.....		226	
Anahaw.....	151	359	42
Bangon.....	24	116	20 6
Batiano.....	247	382	74 3
Candoyong.....	444	664	66 8
Dapanon.....	141	767	18 3
Malillo.....	188	271	69 3
Paniki.....	280	612	45 7
Patoo.....		270	
Progreso.....	477	868	55
Rizal.....			
Market.....	150		
Total.....	5,219	9,302	56 1

	<i>Per cent</i>
Despujol: Reported by P. S. D.....	60
Badajoz: Reported by P. S. D.....	62

NOTE.—The corresponding local health officers are continuing the vaccination campaign; and at the time of this report, the percentage over increased over the percentage quoted above.

VOLUNTEERS

Students from Romblon High School who served as inoculators during the campaign against cholera in the Province of Romblon

THIRD YEAR

1. Ceferino Advincula.
2. Castor Macalisang.
3. Rodolfo de Joya.
4. Andres Molino.
5. Arsenio Malayo.
6. Jacinto Maso.
7. Fermin Montaña.
8. Eugenio Gutierrez.
9. Apolonio Filia.
10. Pedro Olibay.

SECOND YEAR

1. Regino Morente.
2. Carito Romero.
3. Jose Mingua.
4. Celestino Carreon.
5. Aurelio Rana.
6. Jose Fernandez.
7. Mariano Tansinco.

FIRST YEAR

1. Eutiquio Ruga.
2. Eugenio Marin.
3. Gerardo Melendres.
4. Pedro Mindo.
5. Rustico Gregorio.
6. Jacinto Dizon.
7. Porfirio Boyco.
8. Arnolfo Rios.

SEVENTH GRADE

1. Jose Malin.
2. Eutiquio Zalazar.
3. Cornelio Tome.
4. Porfirio Faliaria.
5. Florentino Rodeja.
6. Exmundo Morada.

BRIEF NOTES ON THE RESULTS OBTAINED FROM VARIOUS ANTI-LEPROTIC TREATMENTS IN THE LEPER DEPARTMENT OF THE SAN LAZARO HOS- PITAL DURING THE YEAR 1925.

[With one statistical and one graphic table appended]

By **SAMUEL TIETZE, M.D.**

*Member, Committee on Diagnosis; Member, Committee on Treatment;
Member, Leprosy Research Board*

A. ADMISSIONS

There was a total of 441 patients admitted during the year 1925, grouped as positives, suspects, and negatives: 86 from Culion, 11 from Mandaluyon, and 344 from other parts of the Philippine Archipelago.

1. Negative lepers from Culion.....	86
2. Microscopically positive	262
3. As leper suspects from Mandaluyon.....	11
4. As suspects from other sources.....	82
Total	441

¹ During this year, the Government began transferring the negative children born in Culion and housing them in Mandaluyon under the Public Welfare Board. These children were inspected by the writer once a week. Eleven of these, who showed suspicious clinical signs, were transferred to San Lazaro Hospital where they were examined by the Committee on Diagnosis and later discharged as non-lepers.

Out of the total admissions (exclusive of Culion and Mandaluyon), 176 or 50 per cent presented themselves voluntarily for treatment. Out of these presented cases, 117 of 66 per cent were found microscopically positive for leprosy.

The 262 positive cases were admitted under the following types:

1. Macular	4
2. Nodular	235
3. Mixed	22
4. Anæsthetic	1
Total	262

In the foregoing positive admissions, an attempt was made to ascertain the probable place where the disease was con-

tracted. The examination consisted in eliciting a detailed account of the places of residence in relation to the time of the onset of the first clinical symptom and the time of contact with a leper case. In the past, such an examination had resulted in giving me an average of five years intervening between the onset of the first symptom and the exact time of contact with a well known leper case. This presumptive incubation period has been my basis in deducing the probable place of infection for each case where no distinct history of contact was obtained. In the table below, the 255 positives are distributed² among the provinces where it is believed this disease was contracted.

Province	Number	Province	Number
Abra.....	1	Misamis.....	2
Albay.....	1	Mountain Province.....	1
Bataan.....	3	Nueva Ecija.....	22
Batangas.....	5	Occidental Negros.....	1
Bulacan.....	27	Oriental Negros.....	3
Cagayan.....	2	Pampanga.....	7
Cavite.....	10	Pangasinan.....	1
Cebu.....	1	Manila and Rizal.....	115
Camarines Sur.....	1	Romblon.....	2
Davao.....	1	Samar.....	1
Ilocos Norte.....	5	Tarlac.....	14
Ilocos Sur.....	4	Tayabas.....	6
Iloilo.....	1	Zambales.....	3
Laguna.....	18	Zamboanga.....	4
La Union.....	1		
Leyte.....	2	Total.....	255

B. DISCHARGES

The total number discharged during the year was 473, as follows:

1. Paroled cases	172
a. Culion	38
b. San Lazaro	134
2. Discharges with certificates.....	151
a. Final discharges	122
1. San Lazaro (paroled cases).....	2
2. San Lazaro non-lepers.....	29
3. Culion	78
4. San Lazaro clinically positive anaesthetics	13
b. Temporary discharges	29

² The writer is aware that there are many loopholes in such deductions. Nevertheless, this table is far more accurate in comparison with former statistics used in this department, where the birthplace of a leper patient was considered the responsible focus for his disease. This is merely a tentative working plan until more accurate and scientific observations on this incubation period are obtained.

3. Transfer	110
a. To Culion	96
b. To Guam	2
c. To Government Orphanage	10
d. To other departments of San Lazaro Hospital	2
4. Deaths	34
5. Escapes	3
6. Releases under bond	2
Total	473

On the first of the year, there were 517 patients confined; and at the end of the year, 485, indicating that the loss by discharge has slightly exceeded the general admission.³

1. Total census on January 1, 1925	517
2. Total admitted during 1925	441
3. Total discharged during 1925	473
a. Total paroled	172
b. Total discharged with certificates (negatives and suspects)	151
c. Total escaped, bonded, and transferred	116
d. Total died	34
4. Total census remaining at end of year	485

Of the 172 paroled cases during the year, 134 were San Lazaro previously positive cases and 38 from Culion. All these cases were individually examined by the Committee on Diagnosis and given temporary liberty under the parole system. They were subsequently examined every three months and made to report for weekly injections during the eighteen months of the parole period. At the end of the foregoing period, if still found clinically and microscopically negative, they were given a certificate of final discharge. It would not be out of place to lay stress here upon the value of the continuance of this treatment during the parole period, for the reason that a failure in this respect is a direct cause of the relapse of the disease. The paroled patients during the year have not fully complied with this regulation. Out of 106 paroled cases residing in Manila, about 31 per cent failed to report for their

³ The 150 (previously positive lepers) discharged under parole and certificates during 1925 were offset by the admission of 262 new positives during the same year, an indication that the eradication of leprosy is progressing, because (a) more leprous foci are removed from the provinces, (b) the number of contact cases diminished, and (c) earlier treatment is applied with a greater percentage of cures. The ratio of cured positive discharges (150) and new positive admissions (262) was 7.13 in this hospital.

weekly injections. This failure may, in the near future, result in many relapses, an experience which the Hawaiian workers have noted.

Classifying these paroled San Lazaro cases from the point of view of the types of the disease on admission, we find the following:

1. Macular	9
2. Nodular	114
3. Mixed	9
4. Anæsthetic	2
Total	134

The following table gives the various groups of cases receiving certificates of temporary or permanent discharge, exclusive of paroles:

1. San Lazaro (previously positive) given final certificates	16
2. San Lazaro cases, microscopically negative but clinically positive anæsthetics.....	13
3. Suspect cases given provisional certificates (to report for further examinations).....	29
4. Patients declared non-lepers.....	29
5. Negative cases from Culion (previously positive given final certificates)	78
Total	165

A comparison of paroled and finally discharged cases⁴ (all previously positive) for the years 1924 and 1925 is given:

Year	Paroled	Discharges with final certificate	Total discharges
1924	28	9	37
1925	134	16	150
Differences	+106	+7	+113

Plus (+) sign means increase for 1925.

C. TRANSFERRED CASES

During the year.

1. Ninety-six patients (92 males and 4 females) were sent to Culion Leper Colony.
2. Two patients returned to Guam.
3. Ten patients returned to Government Orphanage, Department B, under the Public Welfare Board.
4. Two patients sent to other departments of the San Lazaro Hospital.

⁴ Refers to San Lazaro cases only.

D. DEATHS

Thirty-four deaths occurred during the year 1925, of which 18 were autopsied^a; 25 or 73 per cent suffered from pulmonary tuberculosis.

Below is given a list of causes of deaths (not autopsied).

	Number of patients
Chronic cachexia; nodular leprosy.....	1
Tuberculosis; broncho-pneumonia; nodular leprosy....	1
Pulmonary tuberculosis; nodular leprosy.....	8
Pulmonary tuberculosis; anæsthetic leprosy.....	1
Pulmonary tuberculosis; mixed leprosy.....	2
Tetanus; nodular leprosy.....	2
Nodular leprosy	1
Total	16

E. TREATMENTS

During the year, the following anti-leprotic treatment were used:

1. Chaulmoögra Ethyl-Esters with one-half per cent iodine (Dean's treatment). Dose: 5 c.c. applied intramuscularly.
2. Mercado Mixture (consisting of chaulmoogra oil, camphor, resorcin, and olive oil). Dose: 5 c.c. applied intramuscularly.
3. Mixed treatment (a) chaulmoögra ethyl-esters with one-half per cent iodine combined with equal parts of (b) Mercado Mixture. Dose: 5 c.c. applied intramuscularly.
4. Ketonina Treatment (exact ingredients not known) (probably contains a more refined chaulmoögra oil). Dose: 5 c.c. applied intramuscularly.
5. Tryparsamide Treatment. Dose: 60 grains applied intravenously.
6. Eparseno Treatment. Dose: 2 c.c. applied intramuscularly.
7. Doctor Reitz's Treatment. Dose and method of administration unknown. (Treated by private physician.)

Practically all the patients received the chaulmoögra ethyl-esters with one-half per cent iodine. The other treatments noted in the table above were in the nature of an experiment. In the table below are given the number of patients in the following groups receiving anti-leprotic treatments.

Groups of cases	Number of patients
1. Paroled cases at large.....	127
2. Suspect lepers after given discharge.....	29
3. Clinically positive anæsthetic cases before discharge	18
4. Suspects given provisional certificates of discharge to report for injections.....	29
5. Negative cases held for parole.....	106

^a For detailed autopsy findings, see appended table.

Groups of cases	Number of patients
6. Positive cases admitted previous to 1925.....	101
7. Positive cases admitted during 1925.....	244
Total	649

A very important factor having a direct influence upon the number of negatives produced is the strict administration of anti-leprotic treatment to every patient, when possible. Of the total confined during 1925, a monthly average of 93 per cent of the patients confined thruout the year received treatment. This general intensive treatment is an extremely important factor in obtaining the maximum beneficial effect in the institutional treatment of leprosy, if we are to consider the many contradictions that so frequently arise in this disease.

The following table gives the time of administration of the various treatments:

Kind of medicine used	Daily	Weekly	Biweekly	Tri-weekly	Total
1. Chaulmoogra ethyl-esters with one-half iodine....	21	93	332	167	613
2. Mercado.....	0	0	7	0	7
3. Mixed treatment.....	0	0	13	0	13
4. Ketonina.....	0	0	4	0	4
5. Tryparsamide ^a	0	10	0	0	10
6. Doctor Reitz's ^b	0	0	1	0	1
7. Eparseno.....	0	0	0	1	1
Total.....	21	103	357	168	649

^a Given intravenously. See "tryparsamide treatment."

^b Private preparation—composition unknown.

The following table shows the number of negatives resulting from the foregoing treatments as compared with the previous year:

Confined last day of—	Microscopically negative only	Microscopically and clinically negative	Total
1925.....	106	77	183
1924.....	17	79	96
	+89	-2	+87

Plus (+) sign means increase and minus (—) sign means decrease, both for 1925.

The following table gives the number of microscopical negatives resulting from the treatments, the average duration of treatment, the original diagnosis on admission, and the average duration of illness before treatment.

Type on admission	Number	Microscopically negative			Average illness duration before admission		
		Average treatment duration					
		Yrs.	Mo.	Da.	Yrs.	Mo.	Da.
Macular.....	22	1	2	16	1	.....	5
Nodular.....	150	2	3	28	1	4	.....
Mixed.....	11	1	1	17	3	.....	.....
Total.....	183	1	6	18	1	9	12

Out of 183 negatives microscopically examined, 77 * cleared up clinically before the end of the year. Of the negative cases, the shortest duration of illness before admission was 2 months and the longest 14 years; the average duration of the entire group was 1 year, 9 months, and 12 days. The shortest period of treatment was three months and the longest 10 years, thereby giving an average duration of treatment, for all these negatives, of 1 year, 6 months, and 18 days.

While it is true that about seven of the foregoing negatives received, previous to the introduction of the chaulmoögra ethyl-esters with one-half per cent iodine, other forms of treatment (Mercado, Collobiasis, etc.), the responsibility for the cure is placed on the former drug, as the period of treatment with the latter was almost insignificant.

Such cases treated previously with other drugs may be summarized in five of the negative cases as follows:

1. Collobiasis for a period of 6 months; Mercado Mixture for a period of 1 year, 2 months, 14 days, followed by chaulmoögra ethyl-esters with one-half per cent iodine for an average of 5 years 3
 2. Mercado Mixture for a period of 6 months followed by chaulmoögra ethyl-esters with one-half per cent iodine for a period of about 3 years.... 2
-
- Total 5
-

1. THE CHAULMOÖGRA ETHYL-ESTERS WITH ONE-HALF IODINE

This treatment was received by 613 patients during the year. This large group was subdivided into daily, biweekly, and triweekly intramuscular injections. There were only six

* The average period for a microscopically negative case to become clinically negative was 4 months.

abscess infections resulting from the many thousand injections. The average dose was 5 c.c. given deeply in the muscle tissues. There was barely any pain and the patient have so far made no complaint against this method of administration.

Many reactions were noted under the foregoing form of treatment. Experience has taught me to look upon this fact as a generally favorable indication of the ultimate cure of the disease. These reactions⁷ varied from a mere lassitude and slight reddening of the original lesion to severe leprotic fever, muscular pain, extreme prostration, and marked inflammatory lighting up of the old lesions, with an outcrop of new ones. The duration of these reactions ranged from a few days to several months with some patients, who had as many as three repeated attacks. Out of 183 negatives, 160 (87%) suffered from reactions as follows:

Number of patients having 3 reactions.....	21
Number of patients having 2 reactions.....	41
Number of patients having 1 reaction.....	98
<hr/>	
Total number of patients having reactions....	160
<hr/>	
Total number of reactions.....	243
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2. MIXED TREATMENT⁸

Of the thirteen receiving this mixture, 7 became negative microscopically. This combination was administered to those who had become stationary when changed from one form of treatment to another. It is difficult to decide which member of this mixture can be given credit for the ultimate cure of the foregoing seven cases. The dose was 5 c.c., given intramuscularly twice a week.

⁷ One patient who showed no lung involvement on admission developed an intense skin reaction after a four months' treatment with chaulmoogra ethyl-esters with one-half per cent iodine. Examination of the lungs then revealed an extensive infiltration of the upper lobe with the sputum positive for acid-fast bacilli. As the skin improved after this general reaction, the sputum correspondingly became negative and the infiltration of the lungs less extensive. It is a question whether or not we may interpret such infiltration occurring in the lungs within so short a period (4 months) as an intensive invasion of the latter with lepra bacilli which, breaking down in the lung during the general reaction of the skin, caused a reaction on the part of the lung in the form of infiltration. Unfortunately, no animal inoculation with the first sputum was performed to differentiate it from the T. B. bacilli.

⁸ See the table on various treatments.

3. MERCADO MIXTURE ⁹

Of the 14 cases selected during 1924 for this treatment, seven continued during 1925 with this mixture. Four became negative during the year. The average duration of treatment of these negatives was 4 years, 5 months, and 13 days. These four also received previously the chaulmoögra ethyl-esters with one-half per cent iodine for the following periods:

One case received the chaulmoögra ethyl-esters with one-half per cent iodine for a period of 1½ years.

Two cases received the same drug for a period of 2 years and 7 months.

One case received the same drug for a period of 6 months.

Credit, however, must be given the Mercado Mixture in rendering the four cases negative.

4. TRYPARSAMIDE TREATMENT ¹⁰

In August, 1925, ten newly admitted positive cases were placed under the tryparsamide treatment. This drug contains an arsenic compound and is readily miscible in distilled water. The ten cases selected were fairly well advanced, some of whom showed the mixed and the nodular forms. The treatment was divided into courses of eight injections each, with intervals of two months' rest. The initial dose was 2 grams dissolved in 10 c.c. of recently distilled water given intravenously once a week. During the first course, one nodular case became negative microscopically and showed clinical improvement of about 30 per cent. The rest showed practically no marked improvement.¹¹ They all showed reactions of a moderate type. No definite conclusions can be drawn, as the supply of this drug ran out at the end of the second course and the treatment had to be suspended. No toxic eye symptoms were noted during the treatment, but latent T. B. may become active.

⁹ Mixture containing chaulmoögra oil, camphor oil, resorcin, olive oil, ether.

¹⁰ One of the 10 patients, 70 years of age, who showed no lung lesions on admission, died under the following circumstances: This patient, who was up and about during the six weeks of the rest period following the last injection (end of second course), suddenly had an attack of dysentery; and, after two days' illness, died. The autopsy revealed chronic pulmonary T. B., chronic nephritis, toxic colitis (report of Doctor Guazon, pathologist, medical college, U. P.). Doctor Guazon asserted that there were no signs of arsenic degenerations of the internal organs.

¹¹ Many of the specimens taken after treatment showed broken down bacilli.

5. EPARSENSO TREATMENT

One female patient had been given a course of six injections with Eparseno. This drug contains arsenic and was given intramuscularly every other day. It is put in ampoules (2 c.c.). The treatment was stopped, as the patient began to show arsenical poisoning. She, however, became negative after resuming the chaulmoögra ethyl-esters with one-half per cent iodine.

6. KETONINA TREATMENT ¹²

One patient was benefited after a short period of treatment.¹³ The patient resumed the chaulmoögra ethyl-esters with one-half per cent iodine and became subsequently negative.

E. NEGATIVE CHILDREN FROM CULION

Eighty-one children born of leper parents were inspected by the undersigned and treated once a week in the Government Orphanage (Mandaluyon), under the Public Welfare Board. These children were given weekly injections intramuscularly of Chaulmoögra Ethyl-Esters with one-half per cent iodine in small doses ($\frac{1}{2}$ to $1\frac{1}{2}$ c.c.) graduated according to age. This treatment was used in the nature of prophylactic on the presumption that they may have latent leprosy (carriers). Towards the end of the year, thirty-two additional children arrived from Culion, making a total of 103 confined in Mandaluyon.

F. OTHER DISEASES

During the year, the following diseases were coincidentally treated: typhoid fever, tetanus, six cholera suspects, tuberculosis, nephritis, and syphilis. Regarding tuberculosis, there were five cases confined in the hospital ward. These tuberculosis patients are not included in the number that died of this disease.

SUMMARY

1. There was a total of 441 admissions and 473 discharges.
2. There were admitted 262 microscopically positives, as compared with 253 in 1924.
3. Of the admissions, 176 (or 51%) (exclusive of Culion and Mandaluyon) presented themselves voluntarily for treatment. Of these voluntary cases, 117 (or 66%) were found to be positive for leprosy.

¹² Probably similar in composition to the Mercado Mixture, but containing chaulmoögra oil in a more refined state.

¹³ Only a limited supply of this drug was on hand.

4. There were 34 deaths; 25 (or 73%) suffered from pulmonary tuberculosis.

5. Out of 183 negatives microscopically found during 1925, 160 (or 87%) had reactions.

6. The daily census of patients confined was 482 and the average percentage of the patients receiving active anti-leprotic treatment was 93 per cent.

7. Of the 502¹⁴ positive cases under anti-leprotic treatment, 183 became microscopically negative during 1925.

8. There were 150 negatives (San Lazaro cases previously positives) temporarily discharged under parole or discharged with final certificates—

Number of patients completely discharged.....	16
Number of patients under parole.....	134
	<hr/>
Total number of patients.....	150
	<hr/>

9. One case became microscopically negative after receiving eight intravenous injections of Tryparsamide, a drug containing arsenic.

10. Rizal Province and Manila furnished the greatest number of microscopically positive cases (115, or 43% of the total positive admissions).

Autopsy Preliminary Reports on Leper Patients Who Died in the Leper Department in 1925

Chronic and ulcerative, acute pulmonary tuberculosis, bilateral; chronic ulcerative enterocolitis, tuberculous; tuberculous mesenteric lymphadenitis, acute paranchymatous degeneration of the heart, liver, and kidneys; generalized discoloration of the skin (nodular leprosy); decubitus; ulcerative; edema.....	1
Tuberculous pleuritis with hemorrhagic effusion, left; leprosy, anæsthetic	1
Empyema, right pleura; abscess, right lung; hypostatic pneumonia, left; chronic nephritis; gangrene, right foot; contraction of fingers, right.....	1
Pulmonary tuberculosis; chronic nephritis; chronic endocarditis....	1
Tuberculosis of the liver, spleen, and right lung.....	1

" Positive admitted during 1925.....	262
Positive remaining from 1924.....	370
	<hr/>
Total	632
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From this total, 130 positives (96 transferred to Culion, 34 deaths) were lost during the year, thereby leaving 502.

*Autopsy Preliminary Reports on Leper Patients Who Died in the Leper
Department in 1925—Continued*

Tuberculosis broncho-pneumonia; tuberculous peritonitis, tuberculosis of the intestines; nodular leprosy.....	1
Colitis; fibrino-hemorrhagic bacillary dysentery; chronic massive congestion of viscera.....	1
Chronic and subacute parenchymatous nephritis; peritoneal adhesions; anasarca; hypertrophy of the heart; chronic passive congestion of viscera.....	1
Pulmonary tuberculosis with extensive cavitation; cloudy swelling of the kidneys; nodular leprosy.....	1
Tuberculous peritonitis; chronic ulcerative tuberculosis, pulmonary; tuberculosis, caseated, peribronchial and mesenteric; pleuritis, tuberculous; nodular leprosy.....	1
Mixed leprosy; lobar pneumonia, right side; chronic pulmonary tuberculosis, bilateral upper lobe; chronic nephritis; myocarditis	1
Chronic nephritis; exophthalmic goitre and lymphatic leukemia....	1
Lobar pneumonia, right side; chronic pulmonary tuberculosis, bilateral upper lobe; chronic nephritis; myocarditis; mixed leprosy	1
Tuberculosis, broncho-pneumonia, right; miliary tuberculosis of the left lung with edema; chronic miliary tuberculosis of the peritoneum and liver; chronic nephritis; chronic tricuspid valvitis; leprosy	1
Abscess, kidneys; chronic myocarditis; leprosy, clinical.....	1
Miliary tuberculosis, generalized lung, liver, spleen, peritoneum, intestines; ulcerative enteritis, tuberculosis; hydroperitoneum; leprosy	1
Empyema of the right pleural cavity; marked miliary tuberculosis of the left lung; mixed leprosy.....	1
Generalized miliary tuberculosis of the lungs, liver, spleen, intestines, mesentery and peribronchial glands; ulcerative enteritis, tuberculosis; pleurisy, right; nodular leprosy.....	1
Total	18

ONE HUNDRED EIGHTY-THREE NEGATIVES CONFINED AND FOUND DURING THE YEAR 1923

GRAPHIC CHART SHOWING THE RELATION BETWEEN THE DURATION OF TREATMENT AND THE DURATION OF ILLNESS BEFORE TREATMENT OF THESE NEGATIVES

	Types		Class of treatments received							Number of patients having reactions before negative						
Previously positive San Lazaro cases	Mac.	Nod.	Mixed	Anae- sticia	CEEI	Mer- cado	Mixed	Try para- mide	C. Keto- nina	Coll. Mer- cado CEEI	Others	Mac.	Nod.	Mixed	Anae- sticia	
Admitted as positive before 1921..... (12)	0	9	0	0	3	0	2	0	0	2	1	1	0	9	0	0
Admitted as positive during 1921..... (27)	0	14	1	0	11	0	2	0	0	2	0	0	0	14	1	0
Admitted as positive during 1922..... (61)	3	35	1	0	37	0	1	0	1	0	0	0	2	34	0	0
Admitted as positive during 1923..... (105)	12	34	3	0	49	0	0	0	0	0	0	0	5	39	2	0
Admitted as positive during 1924..... (148)	8	36	8	0	49	1	2	0	0	0	0	0	7	41	2	0
Admitted as positive during 1925..... (208)	0	15	4	0	18	0	0	1	0	0	0	0	0	4	0	0
Total.....	23	143	17	0	167	1	7	1	1	2	3	1	14	141	5	00

Previously positive San Lazaro cases	Illness duration before treatment		Duration of treatment						Number of negatives		
	Within 1 year	From 1 to 2 years	From 2 to 3 years	From 3 to 4 years	From 4 to 5 years and over	Within 1 year	From 1 to 2 years	From 2 to 3 years	From 3 to 4 years	From 4 to 5 years and over	
Admitted as positive before 1921..... (12)	1	2	4	0	2	0	0	0	0	9	9
Admitted as positive during 1921..... (27)	3	4	5	0	3	0	0	0	7	8	15
Admitted as positive during 1922..... (61)	12	13	3	7	4	0	0	32	7	0	39
Admitted as positive during 1923..... (105)	6	19	14	8	2	1	29	18	1	0	49
Admitted as positive during 1924..... (148)	17	14	8	4	9	26	24	2	0	0	52
Admitted as positive during 1925..... (208)	7	3	2	0	7	19	0	0	0	0	19
Total.....	46	55	36	19	27	46	53	52	15	17	183

THE HEALTH SUPERVISION OF SCHOOLS IN MANILA AND PROVINCES

HEALTH SUPERVISION

The health supervision in the public schools is carried on in the City of Manila by two commissioned officers and in the provinces by the local health officers under the direction of the Office of General Inspection, and is based on three main features, (1) thorough physical examination by the physician in accordance with the physical record card prepared jointly by the Health Service, the Red Cross and the Bureau of Education; (2) rapid classroom inspection carried on by the school nurses; and (3) follow-up work in school and clinic, carried on by physicians and nurses.

MEDICAL INSPECTION

The principal points of these medical inspections are as follows:

(a) *Early detection of communicable diseases and their consequent prevention and control.*—This is accomplished by the pre-admission inspection and by subsequent inspections in the schools, by vaccinations, etc.

(b) *Prevention, detection, and correction of physical defects among school children.*—This is carried out by the physical inspections of school children and the treatment of those found defective, at the clinics and hospitals.

(c) *Health education of teachers and pupils.*—This is done by means of individual health talks during the individual health inspections and consultations, as well as by means of talks and lectures to teachers and pupils.

PHYSICIAN'S EXAMINATION

In the City of Manila.—For the purpose of physical examination of school children, the public schools in the City of Manila, numbering 47 and with an enrollment of more than 54,000 pupils, have been divided into two districts; namely, those situated on the north side of the Pasig River known as the North of the Pasig River District, and those situated on the south side of the Pasig River, as South of the Pasig River District. In

the North of the Pasig River District there are 34 public schools under the charge of a commissioned officer of the Service. The 13 public schools in the South of the Pasig River District are under the charge of another commissioned officer.

The general schedule of work is arranged in such a manner as to enable the personnel to undertake school physical examination during the morning hours, leaving the afternoon for clinical work. During the physical examination, individual health talks on hygiene are given to the children. Conferences and lectures are given to teachers and pupils by school physicians whenever arrangements can be made with the school authorities. These, when given, are generally well received and appreciated. These, so far given, bear on personal hygiene and sanitation, early detection of communicable disease, simple remedies and first aid, and also dietetics and nutrition. The importance of a harmonious relation and mutual coöperation between the school authorities and the health personnel are emphasized in these conferences. Talks on sex hygiene and sex education have been started in the Manila East High School. There was also started among all the schools in Manila, especially in the elementary schools, the weighing and measuring of the school children, with a view to a study of the relation of their weight and height to their progress in physical and mental development. Other studies connected with health of the school children and its relation with the physical and mental development will be started.

In the provinces.—In the provinces, the physical examination of school children are made by the district health officers (physicians), presidents of sanitary divisions (mostly physicians), provincial dentists, and district nurses. However, it may be stated that, due to the numerous duties imposed upon provincial and municipal health officers, the physical examination work in the provinces is not made so thoroughly, so extensively, or so effectively as in the City of Manila.

NURSE'S SUPERVISION

The school nurses aid the school physicians in the supervision of schools and in clinical work. After the opening of school the nurses make a rapid classroom inspection of primary classes to determine the presence of communicable diseases. They weigh, measure, and test the vision of school children and fill out their health records, while the physician makes the routine physical examination. They also attend to minor injuries and

diseases and collect the children from the classrooms for treatment by the school physician.

FOLLOW-UP WORK

By the physicians.—Follow-up work is practiced by the school physician only upon the appearance of cases of communicable diseases among children in schools and in cases of necessity. As a rule, children with physical defects report promptly for treatment in the school clinic. Frequently the parents accompany the children and the necessary treatment and instruction are given at the clinic by the school physician.

By the nurses.—As in the case of the school physician, only in case of necessity, during vacation or when cases of communicable diseases appear, do the nurses practice follow-up work. The follow-up work is of necessity very limited due to the fact that in the City of Manila there are available only seven nurses for a total of 47 schools with an enrollment of more than 54,000 school children.

DENTAL WORK

So far, there are only 4 dentists appointed to render service among school children; one is assigned in the City of Manila; and 3 in the provinces. The one in the City of Manila devotes all his time school work. Those assigned in the provinces attend not only the school children but also the poor people. The work consists mainly of giving instructions in dental hygiene and rendering dental relief, the latter consists of treatment and temporary filling. This is a phase of the work which is undertaken by the Service in a very limited scale.

TEACHER

The teachers assist the health officers in the health supervision of school children. For this purpose, they are requested to fill the blanks referring to the school record in the health record which consists mainly in their observations of the health of their pupils throughout the school year. The information furnished by the teachers proves of great aid to the school physicians and nurses. They also aid in the enforcement of such minor repairs and improvements of school buildings suggested by the health personnel as are found necessary from time to time. Those refer to the sanitation, ventilation, lighting, cleanliness, washing facilities, drinking water, water-closets, toilet paper, etc.

MISCELLANEOUS

ALBAY

The yaws campaign is being pushed in Catanduanes, 674 patients having been injected with neosalvarsan during the month. Two thousand ampules, of neosalvarsan, syringes needles, and alcohol stoves were sent to Virac. There is now nothing lacking, and a very large number will be treated in the northern towns and in the far distant barrios. Doctor Chavez, with a nurse and sanitary inspector is working there at present.

The district health officer, with the provincial governor and treasurer, visited all of the modern markets, and appropriations have been made by all of the municipalities concerned for such repairs, painting, etc., as are required.

An inspection trip to the most distant towns was made by the district health officer, accompanied by Doctor Aguilar, Director Rodriguez, Doctor Abriol, and Engineer Mañosa.

BATAAN

The public dispensaries of Balanga, Orion, and Orani were supplied with standard equipment and medicines. In Balanga an appropriation of P100 has been set aside by the municipal council for aconditioning a suitable place in the municipal building for office and public dispensary of the President of Sanitary Division.

The inspection of school children was undertaken by the presidents of Sanitary Divisions.

BATANGAS

The most important communicable diseases registered by municipality during the month were as follows: amebic dysentery—Batangas 1-1, Bolbok 1-1; bacillary dysentery—Calaca 12-3, Bauan 1-1, Malvar 1-1, Taal 3-3; typhoid fever—Rosario 1-1; and influenza—Lipa 3-3, Malvar 1-1. Sanitary measures were taken.

CAMARINES SUR

During the month of the famous "Aswang sa Dagat" landed in Nato, a port of Sagnay, where people, specially those who were extremely fanatics, gathered to give their offerings and gifts in the form of money to the supposed new Christ. When this man of mystery was seen he was suffering from yaws. He was immediately taken to the provincial hospital where treatment was given. After 2 injections of neosalvarsan the ulcers healed up and discharged.

CAVITE

PERSONNEL

Mr. Alfredo Zapanta was appointed clerk vice Mr. Nicolas Lalic. Mr. Estanislao Riel was appointed Temporary Sanitary Inspector. Sanitary Inspector Isabelo Avifante resigned.

CEBU

Carreta Leper Hospital.—This hospital was visited by Colonel Thompson and party and Governor-General Wood. The Governor-General was satisfied at seeing the improvements effected and in his speech before the U. S. Club, he made special mention of what he found in the leper hospital, declaring that it will be the model for other leprosaria to be established in other provinces.

A new large cottage has been constructed to accommodate the increasing number of lepers.

COTABATO

The physical examination of school children as well as the inspection of the schools was undertaken by the district health officer. Skin diseases, tonsillitis, dental carries, intestinal parasites, trachoma, etc., were the most important findings. Many schools are without proper and adequate waste disposal system. One hundred eighty cases of yaws were treated in the clinics held at Dulawan, Katipuan, and Balong. Both Christians and Non-Christians received treatment.

ISABELA

Dr. J. G. Valdes was designated to supervise the Third Sanitary Division during the absence of the incumbent, Dr. Leon Singson, on leave.

ILOILO

The incidence of dysentery of the bacillary type was specially high during the month in Santa Barga, Cagatuan, Janiway, Oton, San Miguel, and Guimbal. Measures taken were isolation and hospitalization of cases, disinfection, giving particular attention to toilets, kitchens, and fomites. disinfection of insanitary wells, campaign for the construction of Antipolo closets, and destruction of fly breeding places. It was found that a large part of the population refused hospitalization, and not infrequently also, refused to take medicines.

LAGUNA

The month was expended in training the personnel in mosquito larva habits, preparatory to malarial control measure.

The most important undertaking during this month was the malaria treatment campaign in Majayjay and Cabuyao. The provincial board approved the construction of a laboratory in which treatment for incipient syphilis and incipient leprosy may be conducted.

MINDORO

Examination of school children.—One thousand six hundred and twenty school children were examined during the month in the municipalities

of Calapan, Lubang, and Looc. The most common defects detected were dental caries, tonsilitis, trachoma, whooping cough, anchylostomiasis, and defective nutrition. Sixty children were found to be suffering from whooping cough. They were excluded from school and will be allowed to come back after the subsidence of the cough.

Smallpox vaccination.—Four thousand two hundred and three were reported vaccinated during May. The vaccination party performed smallpox vaccination in the municipalities of Mansalay, Bulalacao, and San Jose during the month and reported 2,163 vaccinations for the month of July.

MISAMIS

During the month the examination of school children was continued by the presidents of Sanitary Divisions and district nurses who were making special campaign against trachoma by proper operation and treatment.

Colonel Thompson's party arrived at Cagayan with Major Hitchens, sanitary adviser to the Governor-General, who inspected the office, the hospital, the provincial and municipal jails, and left satisfied.

NUEVA ECIJA

Dr. Toribio Joson, former district health officer, has been appointed pensionado of the Service to the United States. He will specialize in mental diseases.

NUEVA VIZCAYA

There were 75 cases of influenza recorded with 23 deaths; 15 cases of dysentery with 3 deaths; 10 cases of tuberculosis of the lungs with 10 deaths; 205 cases of malaria with 27 deaths; and 9 cases of pneumonia with 8 deaths. Prompt disinfection, isolation of cases of communicable diseases, and prophylactic inoculation were given.

OCCIDENTAL NEGROS

Dr. Silvino R. Alberto assumed office as assistant district health officer.

ZAMBOANGA

Arrival of Colonel Carmi A. Thompson and Party.—The Colonel and party arrived here in the afternoon of August 25. About 10,000 people were present to welcome him. Major Hitchens, a member of party and medical adviser to the Colonel, had visited San Ramon and Taluksangay together with Dr. Cristobal Manalang and the district health officer and were satisfied of the sanitary condition obtaining in those places. On the following day, the party proceeded to Isabela de Basilan on its way to Jolo and, according to information received from the president sanitary division, Major Hitchens found conditions to his entire satisfaction.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of August, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	290,009
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I, MEISIC:	
1. Tondo	79,705
2. San Nicolas	28,792
3. Binondo	17,388
Total	125,885
No. II, SAMPALOC:	
4. Santa Cruz	51,565
5. Quiapo	15,653
6. San Miguel	4,377
7. Sampaloc	39,186
Total	110,781
No. III, PACO:	
8. Port Area	4,754
9. Intramuros	14,437
10. Ermita	15,931
11. Malate	16,259
12. Paco	15,830
13. Pandacan	5,785
14. Santa Ana	6,589
Total	79,585
Grand total	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, AUGUST, 1926**

Date	Pressure mean ¹	Temperature					
		In shade ²				Underground	
		Mean	Absolute maximum	Day	Absolute minimum	Day	0.50 m.
	mm.	°C.	°C.		°C.		8 a. m. mean
1-10.....	757.99	26.2	32.8	8	23.4	3.8	30.0
11-20.....	56.27	26.4	31.8	15, 18	23.4	13	29.6
21-31.....	58.92	26.7	32.6	31	22.9	28	29.7

Date	Relative humidity				
	Mean	Daily mean maximum	Day	Daily mean minimum	Day
	Per cent	Per cent		Per cent	
1-10.....	88.8	91.4	3.7	86.5	1
11-20.....	87.5	91.5	16	83.5	14
21-31.....	85.0	90.5	21	79.4	27

Date	Prevailing direction	Wind			Atmometer ² (open air)		
		Velocity			Total	Daily maximum	Day
		Total	Daily total maximum	Day	Total	Daily maximum	Day
1-10.....	E-SE	Km. 845.0	Km. 125.0	5	mm. 14.4	mm. 2.2	1
11-20.....	SW	2,422.5	488.0	15	13.2	3.3	19
21-31.....	SW	2,330.5	396.0	22	26.6	4.3	27

Date	Sunshine			Rainfall	
	Total	Daily maximum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	18 00	3 50	9	84.8	9
11-20.....	16 00	4 50	15	183.1	10
21-31.....	49 25	9 10	25	56.9	6

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY
OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	9	11	20	75.19
Filipinos.....	546	520	1,066	43.31
Spaniards.....	5	1	6	36.16
Other Europeans.....		1	1	10.46
Chinese.....	27	19	46	30.35
All others.....	4	4	8	43.12
Total and average.....	591	556	1,147	42.78

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MANILA:							
1. Tondo.....	164	189	303	6	9	15	318
2. San Nicolas.....	50	49	99	3	1	4	103
3. Binondo.....	24	15	39				39
Total.....	238	203	441	9	10	19	460
No. II, SAMPALOC:							
4. Santa Cruz.....	57	59	116	7	6	13	129
5. Quiapo.....	18	22	40				40
6. San Miguel.....	14	4	18	1	2	3	21
7. Sampaloc.....	73	78	151	5	6	11	162
Total.....	162	163	325	13	14	27	352
No. III, PACO:							
8. Port Area.....		1	1				1
9. Intramuros.....	24	14	38	1	3	4	42
10. Ermita.....	29	34	63	3		3	66
11. Malate.....	56	56	112	2	3	5	117
12. Paco.....	22	28	50	3	3	6	56
13. Pandacan.....	10	9	19	1	1	2	21
14. Santa Ana.....	14	13	27	4	1	5	32
Total.....	155	155	310	14	11	25	335
Grand total.....	555	521	1,076	36	35	71	1,147

Attended by physicians, living, 350; stillbirths, 33.
 Attended by midwives, living, 65; stillbirths, 4.
 Attended by families, living, 732; stillbirths, 21.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	2		2	7.52
Filipinos.....	423	398	821	33.35
Spaniards.....	2	2	4	24.11
Other Europeans.....	3		3	31.39
Chinese.....	35	6	41	27.05
All Others.....	1	3	4	21.56
Total and average.....	466	409	875	32.60

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I, MEISIC:			
1. Tondo.....	145	144	289
2. San Nicolas.....	42	25	67
3. Binondo.....	16	13	29
Total.....	203	182	385
No. II, SAMPALOC:			
4. Santa Cruz.....	77	56	133
5. Quiapo.....	9	16	25
6. San Miguel.....	10	5	15
7. Sampaloc.....	81	60	141
Total.....	177	137	314
No. III, PACO:			
8. Port Area.....			
9. Intramuros.....	14	15	29
10. Ermita.....	18	8	26
11. Malate.....	27	35	62
12. Paco.....	11	18	29
13. Pandacan.....	6	6	12
14. Santa Ana.....	10	8	18
Total.....	86	90	176
Grand total.....	466	409	875

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	117	85
Divorced.....		
Widowed.....	39	64
Single.....	383	306
Conditions not stated.....	4	1
Total.....	543	456
Grand total.....	999	

Stillbirths.....	58
Number of deaths with medical attendance.....	627
Number of deaths without medical attendance.....	372

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	134	104	10	11	259
1 year plus.....	75	78	9	8	170
2 years plus.....	38	34	3	3	78
3 years plus.....	15	13	2		30
4 years plus.....	10	10	1	1	22
5 to 9 years.....	16	14	2		32
10 to 14 years.....	5	3	4		12
15 to 19 years.....	9	14	4	1	28
20 to 24 years.....	23	21	3	2	49
25 to 29 years.....	16	5		3	24
30 to 34 years.....	14	12	6	1	33
35 to 39 years.....	18	11	7	5	41
40 to 44 years.....	9	8	4	1	22
45 to 49 years.....	13	11	4	1	29
50 to 54 years.....	17	13	1	2	33
55 to 59 years.....	11	5	3	1	20
60 to 64 years.....	13	7	4	2	26
65 to 69 years.....	5	4	2	1	12
70 to 74 years.....	6	11	2		19
75 to 79 years.....	8	5	1		14
80 to 84 years.....	2	7			9
85 to 89 years.....	2	5			7
90 to 94 years.....	3	8		1	12
95 to 99 years.....	3	3			6
100 years and over.....	1	3	2		6
Age not stated.....			1		1
Total.....	466	409	75	47	997

NOTE:—One (1) male, Filipino, about 45 years of age and one (1) male, Chinese, about 45 years of age, permanent residence unknown, not included in the above table.

IX. Diseases of the skin and of the cellular tissue									
151-154									
151	Gangrene.....	1							1
152	Acute abscess.....	2							3
159-	XI. Malformations								
159	Congenital malformations (stillbirths not included):								
	b. Congenital malformations of the heart.....			2					2
160-163	XII. Early infancy								
160	Congenital debility, icterus, and sclerema.....	30	19						49
161	Premature birth; injury at birth:								
	a. Premature birth (not stillborn).....	1							8
162	Other diseases peculiar to early infancy.....	6	2						8
164-	XIII. Old age								
164	Senility.....	13	27						40
165-203	XIV. External causes								
179	Accidental burns (conflagration excepted).....	1							1
182	Accidental drowning.....	3							3
185	Accidental traumatism by fall.....	1	1						2
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):								
	c. Automobile accidents.....							1	1
	d. Motorcycle accidents.....	1							1
	f. Injuries by other vehicles.....							1	1
199	Homicide by other means.....								
204-205	XV. Ill-defined diseases								
205	Cause of death not specified or ill-defined:								
	b. Not specified or unknown.....	1						1	2
Total.....		2	423	398	2	2	3	35	6
Grand total.....		2	821	4	3	41		4	875

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

International numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All Others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													4
	a. Typhoid fever.....			2	2					1				1
5	b. Paratyphoid fever.....													
	Malaria:													
10	a. Malarial fever.....			1										1
11	Diphtheria.....			1										1
	Influenza:													
16	a. With pulmonary complications specified						2							2
	Dysentery:													
	a. Amebic.....													
	b. Bacillary.....			6		1								7
	c. Unspecified or due to other causes.....			1		6								7
20	Leprosy.....			1										1
24	Measles.....			1										1
29	Tetanus:													
	a. Umbilical.....			1										1
31	Tuberculosis of the respiratory system.....			8		8								16
32	Tuberculosis of the meninges and central nervous system.....			2						2				2
36	Tuberculosis of other organs:													
	c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted).....			1										1
	e. Tuberculosis of organs other than the above.....			1										1
37	Disseminated tuberculosis:													
	a. Acute.....			1										1
38	Syphilis.....			1		1								2
43-69	<i>II. General diseases not included in Class I</i>													
44	Cancer and other malignant tumors of the stomach, liver.....			1										2
46	Cancer and other malignant tumors of the female genital organs.....					2								2
49	Cancer and other malignant tumors of other or unspecified organs.....			1		1								2
55	Beriberi:													
	a. Infants.....			1		1								2

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
151	Gangrene.....			1										1
160-163	<i>XII. Early infancy</i>													
160	Congenital debility, icterus, and sclerema			1										1
162	Other diseases peculiar to early infancy	2												2
164-	<i>XIII. Old age</i>													
164	Senility.....			3	2									5
165-203	<i>XIV. External causes</i>													
182	Accidental drowning.....			1										1
188	Accidental traumatism by other crushing (vehicles, railways, landlides, etc):													
	a. Railroad accidents.....			1										1
	c. Automobile accidents.....				1									1
	Total.....	68	47	1	1	1	5							122
	Grand total.....	115		1	1	5								122

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
16. Dysentery:						
a. Amebic					1	1
b. Bacillary					4	4
c. Unspecified or due to other causes					2	2
21. Erysipelas					2	2
29. Tetanus:						
a. Umbilical				5		5
31. Tuberculosis of the respiratory system					1	1
32. Tuberculosis of the meninges and central nervous system					1	1
38. Syphilis					1	1
55. Beriberi				10	37	47
56. Rickets					4	4
71. Meningitis:						
a. Simple meningitis					4	4
b. Nonepidemic cerebrospinal meningitis					1	1
80. Infantile convulsions					1	1
99. Bronchitis:						
a. Acute					33	33
b. Chronic					1	1
100. Broncho-pneumonia:						
a. Broncho-pneumonia				3	46	49
b. Capillary bronchitis					2	2
101. Pneumonia:						
a. Lobar					5	5
108. Diseases of the mouth and annexa					1	1
112. Other diseases of the stomach (cancer excepted)					1	1
113. Diarrhea and enteritis					18	18
128. Acute nephritis					3	3
129. Chronic nephritis					1	1
153. Acute abscess				1		1
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart	1			1		2
160. Congenital debility, icterus, and scler- ema	21	9		10	10	50
161. Premature birth; Injury at birth:						
a. Premature birth (not still- born)	8					8
162. Other diseases peculiar to early in- fancy	1	3		3	3	10
Total	31	12		33	183	259

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	22,289
Number of rats caught by spring traps	3,040
Number of cage wire traps set	682
Number of rats caught by cage wire traps	8
Number and kind of baits (coconuts)	22,971
Number of poison portions placed	16,279
Number of rats found poisoned	238
Number of rats killed by clubs and other weapons	978
Number of rats found dead from other causes	669
Total number of rats otherwise caught, found dead, or killed	4,828
Total number of rats sent to the laboratory for examination	4,828
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF AUGUST, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.....	2		1					2		1		3	2
	No. 2.....	3							3				3	2
	No. 3.....	2							2				2	
	No. 4.....	5	1	3		2			5	1	3	2	8	3
II.	No. 5.....		1								1		1	
	No. 6.....													
	No. 7.....	2	1	2	1	1			3	2	2	1	5	3
	No. 8.....													
	No. 9.....	1		1					1		1		2	
III.	No. 10.....	2							2				2	
	No. 11.....		2	1		1					2	1	2	1
	No. 12.....		2								2		2	
	No. 13.....													
	No. 14.....													
	Grand total.....	17	4	12	5	1	1		18	5	12	5	30	10

REMARKS:

Cases confirmed as typhoid fever.....	27
Cases confirmed as paratyphoid fever.....	3
By autopsy.....	0
By blood culture.....	0
By Widal reaction.....	0
By urine examination.....	2
By feces examination.....	0
By clinical symptoms.....	0
Cases reported among nonresident persons not included in the table.....	28
Deaths reported among nonresident persons not included in the table.....	24
Typoid Carrier—None.....	5

DYSENTERIES REPORTED DURING THE MONTH OF AUGUST, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths	Cases	Cases	Deaths	Cases	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Cases	Deaths	Cases	Deaths	Cases
I.....	6	2	8	6	6	7	3	2	8	7	13	8	16	13	29	21				
No. 1.....	4										7	2	2	2	7	2				
No. 2.....																				
No. 3.....	13	6	5	1	1				3	3	13	6	8	4	21	10				
No. 4.....	1										1				1					
No. 5.....	1										1				1					
No. 6.....	6	3	1	1	1	1	1	1	1	1	7	4	2	2	9	6				
No. 7.....																				
No. 8.....	2					1					3				3					
No. 9.....	3	1	2	1	1	1	1	1	1	1	3	1	2	1	5	2				
No. 10.....																				
No. 11.....	2	1	1	1	1	1	1	1	1	1	3	1	2	2	3	3				
No. 12.....																				
No. 13.....			2																	
No. 14.....	1	1	1	1	1	1	1	1	1	1	2	2	1	1	3	3				
Grand total.....	39	14	22	13	11	15	15	11	15	13	54	25	37	26	91	51				

REMARKS:

Amoebic dysentery..... 7
 Bacillary dysentery..... 49
 Unspecified..... 35
 Cases reported among nonresident persons not included in the table..... 23
 Deaths reported among nonresident persons not included in the table..... 15
 Dysentery carrier-4

CHOLERA REPORTED DURING THE MONTH OF AUGUST, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.....	1		1						1		1		2	
No. 1.....														
No. 2.....														
No. 3.....														
No. 4.....														
No. 5.....														
II.....														
No. 6.....														
No. 7.....														
No. 8.....														
No. 9.....														
No. 10.....														
No. 11.....														
No. 12.....														
No. 13.....														
No. 14.....														
Grand total.....	1		1						1		1		2	

REMARKS:

Two nonresident cases from the Province of Rizal brought to Manila for treatment, are not included in the table.
Cholera carrier—34

DIPHTHERIA REPORTED DURING THE MONTH OF AUGUST, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total			
	Male		Female		Male		Female		Male		Female	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
I.	No. 1. 3				No. 2. 1				No. 3. 8			
II.	No. 4. 1				No. 5. 1				No. 6. 1			
III.	No. 7. 1				No. 8. 1				No. 9. 1			
	No. 10. 1				No. 11. 1				No. 12. 1			
	No. 13. 1				No. 14. 1				Grand total 5			
	No. 15. 2				No. 16. 1				Grand total 7			

REMARKS:

Cases reported among nonresident persons not included in the table

Deaths reported among nonresident persons not included in the table

Diphtheria carrier—2

6

1

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF AUGUST, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	13	4	4	1
Varicella.....	1	1		
Varioloid.....				
Smallpox.....				
Measles.....	1	2	1	
Whooping cough.....				
Influenza.....	14	12	4	3
Bubonic plague.....				
Encephalitis lethargica.....			1	
Meningitis cerebrospinal epidemic.....	1			
Pulmonary tuberculosis.....	187	148	79	74
Tuberculosis of all forms.....	8	7	7	6
Beriberi, infantile.....	24	21	24	21
Beriberi, adult.....	2	1	2	1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	53	7	1	
Varicella.....				
Varioloid.....				
Smallpox.....				
Measles.....				
Whooping cough.....				
Influenza.....	2	2		2
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	1		1	
Pulmonary tuberculosis.....	30	21	10	8
Tuberculosis of all forms.....	6		5	
Beriberi, infantile.....	1	1	1	1
Beriberi, adult.....				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR
THE MONTH OF AUGUST, 1926**

Sera and vaccines	On hand August 1, 1926	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	430,000	500,000	930,000	460,000	470,000
Anti-dysenteric serum (ampoules).....	118	950	1,068	751	317
Anti-tetanic serum (units).....	685,000	12,000	697,000	212,000	485,000
Cholera serum (ampoules).....					
Cholera vaccine (c. c.).....	31,320	271,530	302,850	246,300	56,550
Dried vaccine virus (units).....	91,500	99,900	191,400	90,700	100,700
Fresh vaccine virus (units).....	132,200	200,000	332,200	171,600	160,600
Gonococcus vaccine (ampoules).....		100	100	100	
Mixed cholera-typhoid vaccine (c. c.).....	3,900	150,000	153,900	125,340	28,560
Normal horse serum (ampoules).....					
Typhoid vaccine (c. c.).....	4,760	19,740	24,500	18,000	6,500

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1926

Health districts	Municipal districts	Vaccinations				Inspection of persons vaccinated					
		Total vaccinations	Previously vaccinated		Under 1 year	1 to 4 years		5 years and over		Total	
			Never	Successfully		Positive	Negative	Positive	Negative		
No. 1.....	Tondo.....	304	298	.....	6	279	6	.....	.....	281	6
	San Nicolas.....	182	169	.....	13	141	9	.....	.....	185	14
	Binondo.....	162	147	.....	15	119	14	.....	.....	121	14
	Santa Cruz.....	216	211	.....	5	178	4	.....	.....	180	4
	Quiapo.....	70	63	.....	7	53	6	.....	.....	54	6
No. 2.....	San Miguel.....	66	62	.....	4	24	1	.....	.....	25	1
	Sampaloc.....	1,410	298	989	123	297	7	41	2	368	119
	Port Area.....	.....	.....	.....	.....	.....	.....	.....	.....	706	128
	Intramuros.....	41	41	.....	.....	55	.....	.....	.....	55	.....
	Ermita.....	99	94	.....	5	147	6	.....	.....	148	6
No. 3.....	Malate.....	63	55	.....	8	160	8	.....	.....	160	8
	Paco.....	173	166	.....	2	90	5	21	1	10	11
	Pandacan.....	33	33	.....	.....	33	.....	.....	.....	34	.....
	Santa Ana.....	43	37	.....	6	21	2	.....	.....	1	21
	Grand total.....	2,862	1,674	991	197	1,597	68	99	8	396	131
										2,092	207

VACCINE VIRUS:

Received.....	15,004
Used.....	6,008
Remained.....	9,000

ANTI-DYSENTERY VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1926

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.	Tondo.....	178	78	87	42	265	120
	San Nicolas.....	61	18	21	8	72	26
	Binondo.....						
	Santa Cruz.....	39	40	24	19	63	59
	Quiapo.....						
No. 2.	San Miguel.....						
	Sampaloc.....						
	Port Area.....	19	20	13	9	32	29
	Intramuros.....						
	Ermita.....						
No. 3.	Malate.....						
	Paco.....	28	13	4	9	32	22
	Pandacan.....						
	Santa Ana.....	30	20	18	8	48	28
	Grand total.....	345	189	167	95	512	281

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF AUGUST, 1926¹

395

Health districts	Municipal districts	Number of injections made in—												Total number of injections							
		Adults						Children													
		First injections		Second injections		Third injections		First injections		Second injections		Third injections								First		Second		Third
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1	Tondo		787		794		687		318		825		386		1,055		1,119		1,073		
	San Nicolas	1,138		535		505		230		136		89		1,368		671		594			
	Binondo	881		1,106		784		23	1,501		7	1,293		7	787		2,399		7		
	Santa Cruz	510		434		369		30	215		16	173		13	133		16	607		13	
No. 2	Quiapo	657		420		445			178		128		117		835		548		562		
	San Miguel																				
	Sampaloc	2,098		1	1,520		1,310		47	962		48	918		17	550		49	2,438		18
	Port Area																				
No. 3	Intramuros		1,627		997		952		124		215		459		1,761		1,212		1,411		
	Ermila	2		495		652		14	212		2	227		7	224		2	722		7	
	Malate	258		90		15		17	109		48		4	17	367		138		876		
	Paco	25	648		37	562		72	310		68	265		65	286		95	795		102	
	Pandacan																				
	Santa Ana																				
	Grand total	27	9,097	28	6,921	38	6,281	203	4,159	141	3,728	109	3,335	230	13,256	169	10,649	147	9,616		

¹ Mixed typhoid and cholera vaccine used for the first and second injections.
Typhoid and paratyphoid vaccine used for the third injections.

NOTE.—V. in persons never vaccinated before; R. revaccinations.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	Total vaccina- tions	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	31,072	4,145	18,076	8,851
Agusan.....	7,125	1,428	3,631	2,066
Albay.....	22,872	7,292	3,758	11,322
Antique.....	79,220	12,986	46,809	19,425
Bataan.....	9,318	3,271	3,089	2,953
Batanes.....	2,606	157	653	1,796
Batangas.....	40,044	9,331	13,802	16,911
Bohol.....	32,044	6,848	11,277	13,919
Bukidnon.....	3,124	721	1,056	1,347
Bulacan.....	43,499	7,184	29,910	6,406
Cagayan.....	22,520	4,597	9,112	8,811
Camarines Norte.....	4,631	1,708	1,411	1,512
Camarines Sur.....	78,996	10,604	56,327	12,065
Capiz.....	79,802	21,179	45,273	13,350
Catanduanes.....	11,112	2,015	2,609	6,488
Cavite.....	23,407	4,703	11,177	7,527
Cebu.....	94,688	27,957	24,021	42,710
Cotabato.....	16,177	5,147	5,178	5,852
Davao.....	4,342	1,581	999	1,762
Ilocos Norte.....	19,745	5,001	5,947	8,797
Ilocos Sur.....	26,306	5,571	5,167	15,568
Iloilo.....	60,639	21,542	22,171	16,926
Isabela.....	82,631	18,427	54,066	10,138
Laguna.....	23,847	6,115	11,149	6,583
Lanao.....	3,759	955	1,760	1,044
La Union.....	20,328	4,001	1,233	15,094
Leyte.....	51,139	19,476	4,586	27,077
Marinduque.....	8,682	1,547	2,874	4,261
Masbate.....	8,194	2,451	1,800	3,943
Mindoro.....	51,536	9,408	33,690	8,538
Misamis.....	77,137	12,794	42,961	21,382
Mountain Province.....	27,672	7,738	12,604	7,330
Nueva Ecija.....	33,681	9,415	7,927	16,339
Nueva Vizcaya.....	11,684	1,076	7,349	3,259
Occidental Negros.....	28,379	14,976	5,745	7,658
Oriental Negros.....	26,282	6,942	9,101	10,239
Palawan.....	4,458	2,408	1,642	408
Pampanga.....	35,764	6,019	16,024	13,721
Pangasinan.....	61,270	15,445	14,920	30,905
Rizal.....	70,294	13,147	46,523	10,624
Romblon.....	2,270	768	625	877
Samar.....	111,218	21,358	60,919	28,941
Sorsogon.....	19,423	7,890	155	11,378
Sulu.....	8,700	4,350	2,161	2,189
Surigao.....	38,616	11,215	15,559	11,742
Tarlac.....	23,283	4,306	14,240	4,787
Tayabas.....	28,852	10,908	8,369	9,575
Zambales.....	8,175	1,738	2,391	4,046
Zamboanga.....	9,975	2,192	4,035	3,748
Total.....	1,589,933	382,033	705,761	502,139

¹ Incomplete; reports from other provinces not yet received. Vaccinations performed by Vaccinating Parties are included in the above table.

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1926—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	827	412	4,607	1,527	12,104	6,769	17,538	8,708
Agusan.....	211	115	480	214	1,128	1,342	1,819	1,671
Albay.....	3,245	966	3,258	861	3,924	1,874	10,427	3,701
Antique.....	2,867	664	7,555	4,112	17,825	25,067	28,247	29,843
Bataan.....	1,628	291	2,764	1,079	1,921	1,010	6,813	2,380
Batanes.....	140	70	438	191	1,109	466	1,687	727
Batangas.....	3,492	498	7,232	2,229	9,053	7,606	19,777	10,333
Bohol.....	3,569	1,084	4,790	2,283	9,000	7,563	17,359	10,930
Bukidnon.....	73	25	151	114	902	610	1,126	749
Bulacan.....	3,555	540	4,987	2,086	14,745	11,922	23,287	14,548
Cagayan.....	1,490	484	3,540	1,202	7,677	6,433	12,707	8,119
Camarines Norte.....	542	152	988	276	1,466	575	2,991	1,008
Camarines Sur.....	2,110	191	7,416	1,345	26,794	12,591	36,320	14,127
Capiz.....	3,784	838	8,095	2,069	32,428	15,241	44,306	18,143
Catanduanes.....	989	484	1,157	647	1,654	1,125	3,800	2,256
Cavite.....	3,985	408	3,181	785	9,924	4,992	17,090	6,185
Cebu.....	7,158	2,815	8,907	3,205	13,500	11,245	29,560	17,265
Cotabato.....	196	108	896	596	3,266	2,477	4,358	3,181
Davao.....	166	62	501	288	1,684	979	2,351	1,329
Ilocos Norte.....	2,267	445	4,085	1,212	4,744	4,601	11,096	6,258
Ilocos Sur.....	3,698	983	4,570	1,917	4,721	5,158	12,984	8,058
Iloilo.....	4,427	590	9,503	2,095	15,750	8,681	29,680	11,366
Isabela.....	1,705	428	7,226	2,054	21,766	16,044	30,697	18,526
Laguna.....	2,865	730	2,618	1,421	5,696	8,267	11,179	10,418
Lanao.....	83	13	145	53	698	481	926	547
La Union.....	1,897	597	2,426	1,942	2,567	4,055	6,890	6,594
Leyte.....	2,926	1,073	6,428	2,303	9,278	3,583	18,632	6,959
Marinduque.....	510	149	1,129	450	2,637	1,525	4,276	2,124
Masbate.....	625	200	986	531	2,172	1,723	3,783	2,454
Mindoro.....	1,077	149	4,906	687	21,299	9,273	27,282	10,109
Misamis.....	1,709	381	7,849	1,453	28,568	11,564	37,626	13,398
Mountain Province.....	785	422	2,618	1,155	4,946	4,523	8,349	6,100
Nueva Ecija.....	4,007	830	6,657	2,070	8,559	6,540	19,223	9,440
Nueva Vizcaya.....	440	26	1,412	561	4,993	5,168	6,845	5,755
Occidental Negros.....	4,696	942	5,875	1,652	6,228	2,599	16,799	5,193
Oriental Negros.....	2,848	854	3,851	1,778	7,344	4,232	13,543	6,864
Palawan.....	151	35	262	76	1,090	692	1,503	803
Pampanga.....	2,238	581	2,924	1,096	8,164	6,388	13,326	8,065
Pangasinan.....	6,954	2,015	10,355	3,690	14,112	13,690	31,421	19,395
Rizal.....	4,516	961	7,066	2,966	13,823	18,372	25,405	22,299
Romblon.....	148	24	286	91	390	145	819	260
Samar.....	3,748	1,320	13,570	3,950	38,423	15,772	55,736	21,042
Sorsogon.....	1,580	639	3,563	1,495	2,803	1,612	7,946	3,746
Sulu.....	405	93	1,560	445	2,984	1,215	4,949	1,753
Surigao.....	880	467	2,577	1,997	7,434	10,076	10,841	12,540
Tarlac.....	1,986	813	3,196	1,364	5,087	7,393	10,269	9,570
Tayabas.....	2,995	828	5,445	1,554	10,548	5,891	18,988	8,273
Zambales.....	905	195	1,196	644	2,055	3,041	4,156	3,880
Zamboanga.....	505	269	644	526	1,986	2,357	3,135	3,152
Total.....	103,082	27,254	195,366	68,837	430,969	304,548	729,867	400,139

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	29,018	2,254		31,272
Antique.....	9,077			9,077
Bataan.....	17,866	1,616		19,482
Batanes.....				
Batangas.....	174,652	11,731		186,383
Bohol.....				
Bukidnon.....	230	222		452
Bulacan.....	106,856	11,263		118,119
Cagayan.....				
Camarines Norte.....	576	268		844
Camarines Sur.....	14,626			14,626
Capiz.....	91,946			91,946
Catanduanes.....	4,686	1,716		6,402
Cavite.....	23,049			23,049
Cebu.....	3,519	87		3,606
Cotabato.....				
Davao.....	915	530		1,445
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	14,069	1,221		15,290
Isabela.....				
Laguna.....	103,325	20,583	1,164	125,072
Lanao.....				
La Union.....	3,953	1,458		5,411
Leyte.....	37,901	17,912		55,813
Marinduque.....	49,155	44,864	5,087	99,106
Masbate.....	3,305	1,136		4,441
Mindoro.....	26,741	7,962	1,992	35,695
Misamis.....				
Mountain Province.....				
Nueva Ecija.....	33,942			33,942
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	146,207	4,167		150,374
Pangasinan.....	244,519			244,519
Rizal.....	137,606			137,606
Romblon.....	8,865	180		9,045
Samar.....	1,518	699		2,217
Sorsogon.....	1,977	34		2,011
Sulu.....				
Surigao.....				
Tarlac.....	11,357	7,221		18,578
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	1,308,759	137,124	8,243	1,454,126

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....	536			536
Albay.....	333	166	97	596
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	354	272	10	636
Bohol.....				
Bukidnon.....				
Bulacan.....	180	87	107	374
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....	758	931		1,689
Catanduanes.....	626	223	10	859
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....				
Laguna.....	1,077	566	248	1,891
Lanao.....				
La Union.....	1,364	306	238	1,909
Leyte.....				
Marinduque.....				
Masbate.....	664	166		830
Mindoro.....				
Misamis.....				
Mountain Province.....	82	36		118
Nueva Ecija.....				
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	1,460	386	120	1,966
Pangasinan.....	21	21		42
Rizal.....				
Romblon.....				
Samar.....				
Sorsogon.....	241			241
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	7,696	3,160	831	11,687

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA) VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926

Provinces	First injections	Second injections	Third injections	Total
Abra.....	3,426	4,076		7,502
Agusan.....	7,475	2,222		9,697
Albay.....	27	33		60
Antique.....	9,182	2,270		11,452
Bataan.....	215	128		343
Batanes.....	49	44		93
Batangas.....	510			510
Bohol.....	2,275	2,063		4,338
Bukidnon.....				
Bulacan.....	1,935	202		2,137
Cagayan.....	5,311	2,498		7,809
Camarines Norte.....	3,325	2,508		5,833
Camarines Sur.....	4,816	2,425		7,241
Capiz.....	14,649	5,670		20,219
Catanduanes.....				
Cavite.....	3,969	493		4,462
Cebu.....	38,583	4,865		43,448
Cotabato.....	709	166		875
Davao.....	348	202		550
Ilocos Norte.....	8,502	1,500	1,144	11,146
Ilocos Sur.....	1,431	1,109		2,540
Iloilo.....	14,665	3,382		18,047
Isabela.....	214	146		360
Laguna.....				
Lanao.....	3,922	588		4,510
La Union.....	996	621		1,617
Leyte.....	13,494	6,626		20,120
Marinduque.....	528	102		630
Masbate.....	1,834			1,834
Mindoro.....				
Misamis.....				
Mountain Province.....	1,635	64		1,699
Nueva Ecija.....	617	368		975
Nueva Vizcaya.....	1,615	1,214		2,829
Occidental Negros.....	19,020	11,308		30,328
Oriental Negros.....	3,252	1,450		4,702
Palawan.....				
Pampanga.....	2,157	801		2,958
Pangasinan.....	90	57		147
Rizal.....	3,050	840	251	4,141
Romblon.....				
Samar.....	1,589	920		2,509
Sorsogon.....	389			389
Sulu.....				
Surigao.....	160	120		280
Tarlac.....	25,842	13,296		39,138
Tayabas.....	28,552	9,845		37,897
Zambales.....	3,578	3,246		6,824
Zamboanga.....	2,923	97		3,020
Total.....	236,759	87,055	1,395	325,209

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF AUGUST, 1926

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF AUGUST, 1926.

Provinces and towns	Cases	Deaths
PAMPANGA:		
Bacolor.....	1	
RIZAL:		
Novaliches.....	1	
Pasig.....	1	
Total.....	3	

REMARKS:

Cases from the province of Rizal brought to Manila for treatment, are included in this report.

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF AUGUST, 1926**

	Health districts—			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending, Aug. 1, 1926:				
Minor.....	104	114	85	303
Sewer.....	25	54	3	82
Vacating.....	8	13		21
Filling.....	10	35	17	62
Total.....	147	216	105	468
Orders issued during the month:				
Minor.....	9	85	12	106
Sewer.....	1	1		2
Vacating.....				
Filling.....		1	2	3
Total.....	10	87	14	111
Orders completed during the month:				
Minor.....	9	16	12	37
Sewer.....		2		2
Vacating.....				
Filling.....		1	1	2
Total.....	9	19	13	41
Orders cancelled during the month:				
Minor.....	1	2	2	5
Sewer.....			2	2
Vacating.....		1		1
Filling.....				
Total.....	1	3	4	8
Orders pending, Aug. 31, 1926:				
Minor.....	103	181	83	367
Sewer.....	26	53	1	80
Vacating.....	8	12		20
Filling.....	10	35	18	63
Total.....	147	281	102	530
Strong material plans approved:				
New buildings including additions and alterations.....	25	37	38	100
Permits for minor building constructions:				
Approved.....	26	36	30	92
Disapproved.....	4	9	6	19
New buildings completed.....	17	31	21	69
Permits for light and mixed material constructions:				
Approved.....	8	23	22	53
Disapproved.....	2	4	4	10
Prosecutions:				
Convictions.....	2			2
Dismissals.....	1	1		2
Amount of fines.....	P6.00			P6.00
Plumbing permits issued.....	58	61	41	160
Plumbing projects completed.....	39	59	42	140
Premises connected to the sanitary sewer to July 31, 1926.....	2,487	4,230	607	7,324
Connected during the month.....	2	6	4	12
Total.....	2,489	4,236	611	7,336

Meisic includes Tondo, San Nicolas, and Binondo. Sampaloc includes Santa Cruz, Quiapo, and San Miguel. Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan and Santa Ana.



THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
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PHILIPPINE HEALTH SERVICE

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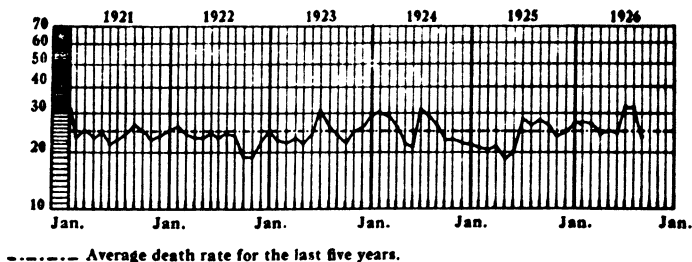
No. 9

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
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VOL. VI

SEPTEMBER, 1926

No. 9

VACCINATION AGAINST ASIATIC CHOLERA

By Dr. A. P. HITCHENS

Technical Adviser to the Governor-General

1. During my recent visit to the Provinces of Mindoro, Marinduque, and Romblon, it was possible to work out in the field an efficient method for administering cholera vaccine to large numbers of people. In elaborating the details noted below, the factors of time and economy were the chief considerations. In paying special attention to these points, however, there was no neglect of the technique of injection as an exact surgical procedure.

2. These details are an adaptation of the methods used in the Army for the injection of typhoid vaccine into large numbers of soldiers. Before it could be stated with certainty that such methods were practical for the immunization of the Filipino people, it was necessary to study the problem in the field. This task has now been done.

3. Two varieties of procedure must be utilized in the immunization of a population by means of vaccine injections. Some of the people can be induced to come to the vaccinator, at a vaccinating station; others will not, or cannot present themselves for injection during the time the station is in operation. The latter individuals can be reached only by house-to-house work. The first procedure to be described is, therefore, the management of the vaccinating-station, and an essential part of this is the manner in which persons will be brought to the station.

4. *Assembling the people.*—It had been suggested to us repeatedly before this trip that the assembling of any considerable number of the people of a community at a vaccinating station would offer almost insurmountable difficulties. As a matter

of fact, there was found to be comparatively little trouble in bringing them out when careful and systematic effort was used. First, a call was made on the governor of the province. When possible, the district health officer and other representatives of the Philippine Health Service were also present. During this trip, Doctor Intengan, Chief of the Division of Provincial Sanitation, was always, with us. In those provinces already visited by cholera, the governors had already received the following telegram from the Governor-General of the Philippine Islands:

In view of the importance of a prompt and careful anti-cholera vaccination of the people of your province, you are directed to order the presidents of the various municipalities to assist in every way possible the representatives of the Philippine Health Service in vaccinating the people against cholera. When a party of vaccinators arrives at a town to vaccinate the inhabitants, the presidents will be ordered to use the police and such other available municipal personnel as can be spared to inform, call in, and assemble the people at the vaccination station, so that the vaccination may be carried out thoroughly and with the least possible delay.

In no instance did we find the provincial governor other than exceedingly anxious to render all assistance possible. We next called on the president of the municipality and found also merely waiting to be told how he could help. The chief of the local Constabulary post offered all the men available, and the chief of police did likewise. Finally, we called on the supervising school teacher and with no difficulty elicited the hearty coöperation of his entire school.

5. The sites of the vaccinating stations having been decided upon, town-criers were sent out to call the people to them; these were followed by the municipal police, by selected volunteers, and by the school children. The presidents notified distant barrios by messenger, that they should be prepared to be vaccinated on a certain subsequent day when a station would be set up in their community.

6. Addresses were made to groups of people by explaining the purpose of our visit, of the vaccination and its value to them. Similar talks were made to the school children who were also told to bring their parents in order that they might immediately receive the protection the vaccination would afford. The school children were marched to the vaccinating station in a body.

7. It has been suggested that such propaganda as this might unduly alarm the people and cause something approaching a

panic among them. Almost the direct opposite was the actual result. The Philippine people are already alarmed; they know what a cholera outbreak means; they are anxious to get the vaccine; its availability serves really to relieve their disturbed state of mind.

8. *The vaccinating station.*—In working out the details of the vaccinating station, the relative speed of the vaccinators and of the recorders was studied. With proper assistants, so that he can devote his entire time to making the injections, a vaccinator can easily keep six recorders occupied, if vaccination certificates are issued. If no certificates are issued and merely names, ages, and addresses are taken, four recorders will suffice. The vaccinator has an assistant who cleanses the arms; and his work can be eased if there can be another assistant to fill the syringe not in use. Two guards complete the personnel of the station. A most important point is the fact that assistants and recorders are volunteers who demand no compensation for their services. A small community can be completely vaccinated in one day and volunteers may be secured from the crowd without difficulty; the older school children are delighted to serve in this way. In large communities, there are high schools, and relays of students are available so that no individual need be kept from classes for more than one day. The guards should usually be from the Constabulary. The vaccinators are doctors, nurses, sanitary inspectors, and other persons especially trained to make subcutaneous injections in so careful a manner that infection cannot result.

9. In training the vaccinators, careful attention must be paid to the method of holding the syringe. The barrel of the syringe is held between the forefinger and the middle-finger, the fingers being just behind the flange; the thumb, on the other side of the flange, holds the syringe firmly, while the tip of the thumb is pressed against and keeps the plunger in place. While holding the syringe in this way, the needle is inserted gently but quickly into the subcutaneous tissues; the thumb, moved back, presses the plunger injecting the proper dose; and then the needle is quickly removed. Speed and accuracy are especially important when injecting infants. Of about 30 injected by this method, only two cried. Of those injected by another, less accurate, and less speedy method, all cried—many of them violently.

10. The station itself is merely an arrangement of very simple fences to keep the people in orderly lines, so that there will

be no crowding or confusion. In single file, with sleeve rolled up, and with hand on hip, each individual approaches the vaccinator, the assistant cleanses the arm as each one passes, the injection is made, and with almost no delay he moves on to one of the recorders. His name, address, and age are entered and he is given a certificate of vaccination. A plan of the station is shown in the diagram below. The "fence" need be nothing elaborate or expensive. Posts are pieces of bamboo or wood driven into the ground. They are about one meter high. In lieu of rails, bamboo poles may be used or the posts may be connected by the rope or rattan or even by a string. In Carmen, Tablas, we made use of desks from the school to form the outer barrier. If tables and chairs are not available, boxes serve equally well—recorders may use their knees as desks.

11. A study of the time required to make vaccinations in this way showed that five persons could easily be injected in one minute. This rate means that with proper arrangements, one individual can vaccinate 300 persons in an hour. We were told recently that in Rizal Province, 100 vaccinations are considered a day's work for one vaccinator and he must sometimes continue his labors into the evening in order to obtain his quota.

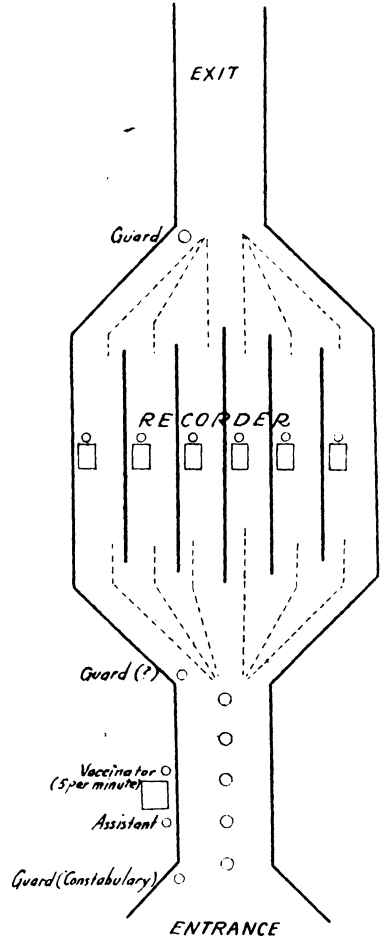
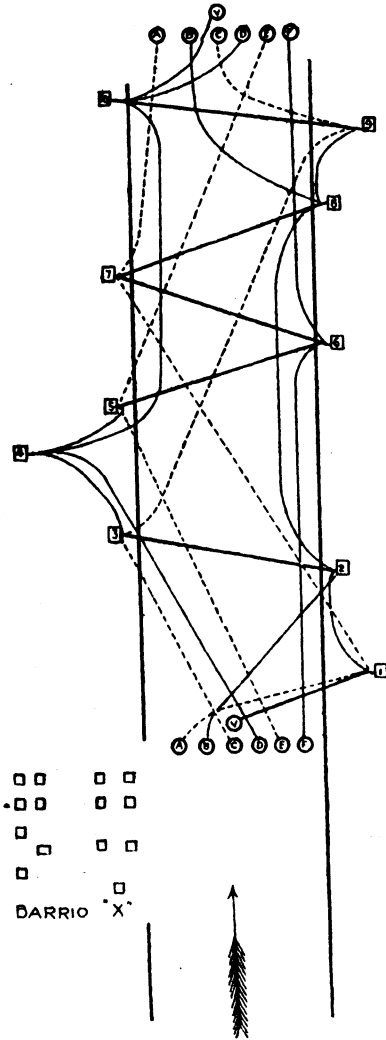
12. It is realized that under the most favorable circumstances, it will not be possible to induce every individual in a community to come to the vaccinating station. Therefore, there must be a subsequent house-to-house canvas. It is believed, however, that in any municipality, except in an infected area, the vaccinators should move as rapidly as possible from one *población* or *barrio* to another and vaccinate first, in each, those persons who present themselves at the stations. In this way the greatest number can be immunized in the shortest time. Afterward, the house-to-house work can be begun and carried through. In an infected community, house-to-house work cannot, of course, be postponed.

13. *Vaccination in rural districts and house-to-house work.*—It is in visiting people to vaccinate them at their homes that the greatest consumption of time of the vaccinator occurs in the method at the present time in use in Rizal Province, for instance. The preliminary interview, the possible waiting for one or more members of the household to be called from the field or from the coconut grove, and other obvious delays, easily account for the difficulty sometimes experienced in finding it possible to make even 100 injections in a day.

13-a. These delays can be eliminated by increasing the number of recorders assigned to each vaccinator. It is suggested that the number be increased to six. The following diagram illustrates the manner in which they will work.

This is a road through a sparsely settled district such as is found everywhere between barrios. The houses are far apart. From the barrio "X," the vaccinator and his six recorders set out together. The vaccinator and recorder "A" go to house "1" and vaccinate its occupants; without waiting, recorders B, C, D, E, and F go on to houses 2, 3, 4, 5, and 6, respectively. When the persons in house "1" have been vaccinated, their names recorded, and certificates issued to them, the vaccinator proceeds to house "2" while recorder "A" goes on to house "7." By the time the vaccinator has reached house "2," recorder "B" has assembled the inmates, interviewed them, recorded their names, made out their certificates of vaccination, and prepared their arms. After these persons have been injected, the vaccinator will then go to house "3" while recorder "B" will proceed to house "8," and so forth. Each recorder will carry a bamboo staff with a letter or sign attached to it and will leave this at the road entrance to indicate to the vaccinator and to the other recorders that he is "covering" that house.

13-b. House-to-house work in cities should be done in a similar manner. It is suggested here that one vaccinator should have with him six recorders. This number is not to be considered fixed. In communities of certain types, it may save his time if he has more; in other types he may require less. The important thing is that there should be enough to have everything ready for him to make the injections when he reaches each house.



14. Volunteer recorders for rural or city house-to-house work can be as easily obtained as for station work. If there had been violent objection on the part of the people to being vaccinated, this statement could probably not be made. We have met with no objection; and it is believed that with such preliminary propaganda as is outlined above, practically no objection will have to be faced.

15. Cholera, while at no time epidemic, has been unusually prevalent for more than four months and new foci are appearing with disturbing regularity. With the relative brief protection that can be expected from a single dose of vaccine, fresh outbreaks must be looked for in communities now quiet, if the thorough protection of all the people is not soon accomplished. Furthermore, this campaign of anti-cholera vaccination is occupying so much of the time and attention of the provincial health officers and sanitary inspectors that in some communities smallpox vaccination is probably being neglected.

16. The foregoing plans are, therefore, strongly recommended because they are speedy, in that large numbers of people can be vaccinated in a single day by a single vaccinator; and they are economical, in that all the personnel used, with the exception of the vaccinator, are volunteers serving without compensation. The plan of the vaccinating station is confidently recommended because it has been adapted to actual field conditions as they exist here, and its entire practicability has been demonstrated.

CHIEF CAUSES OF DEATH AMONG LEPERS AT THE CULION LEPER COLONY

By C. B. LARA, B. DE VERA, J. G. SAMSON, and F. C. EUBANAS
Of the Medical Section, Culion Leper Colony, Philippine Health Service

In medical literature, reports dealing with the causes of death among lepers are not very satisfactory because of the lack of uniformity of opinion among the various writers on the subject and their failure to explain the factors that might have caused these differences. The most important among these factors, in the present writers' opinion, are the accuracy of diagnosis, which necessitates laboratory and autopsy work, and local conditions prevailing at the places where such observations are to be made. In this report, the various factors obtaining at the Culion Leper Colony, as well as data relative to the morbidity and mortality for some of the important diseases in the Philippines, are discussed, and a few new observations are presented.

SPECIAL FACTORS CONSIDERED IN THIS REPORT

Colony life.—In the Culion Leper Colony, the inmates are allowed practically all the liberties and privileges enjoyed by non-leper Filipinos. They intermarry, have their own private enterprises, and subsist and live on funds allotted by the Government. The strict requirements of the segregation law and the isolated location of the Colony, however, have made them practically outcasts from their relatives at home. Moreover, Government help in the past had not always been adequate. These factors materially influenced the mortality until the last three or four years, when—thru the increased efforts of the Government—more frequent communication between the colonies and their relatives has been made possible, and living conditions have to a great extent improved.

Adequacy of the medical personnel.—Until about three years ago, there was but one physician in charge of several thousand lepers, including several hundred hospital cases. Sometime before 1921, another physician was added; but his work consisted in attending to dispensary consultations, and for a part of the time, he served as pharmacist as well. In 1921, four additional physicians were detailed to give leprosy treatment to a group of 500 patients; otherwise, this addition in no way improved the inadequate medical care given to the great majority of the lepers. Under such circumstances and with no

autopsy work performed and practically no laboratory facilities available, it may reasonably be assumed that many of the diagnoses in previous years were erroneous. For the same reasons, many of the patients died when they could have otherwise been saved.

When in April, 1922, the medical staff was increased and a fairly equipped clinico-pathological laboratory was provided, this difficulty of performing accurate diagnoses was to a great extent lessened.

The treatment factor.—Since the beginning of systematic leprosy treatment in 1921 and its general intensification in 1922, a new factor has entered into the analysis and the interpretation of mortality figures for lepers in this Colony.

MATERIAL FOR REPORT

The data presented include the mortality statistics of the Culion Leper Colony from 1908 to 1923, inclusive. The statistics previous to 1921 were obtained from a table prepared by Dr. Jose Avellana Basa, until recently Chief of the Colony; those for 1921, 1922, and 1923 were prepared by the writers.

Nature of the statistics.—Up to April, 1922, all diagnoses of the causes of death were purely clinical. Since that time, clinical diagnoses has been used only for the non-autopsied cases; for autopsied cases, the clinical findings, corrected by the autopsy, have been taken as the correct diagnosis.

CAUSES OF DEATH OF LEPROSY PATIENTS

Hillis' tabulation of the causes of death among lepers in British Guiana, cited by Dyer,⁽¹⁾ gives *marasmus* as responsible for 38 per cent of the death; septicemia or intercurrent diseases as nephritis, for 22.5 per cent; pulmonary diseases, including tuberculosis, for 17 per cent; diarrhea, for 10 per cent; anemia, for 5 per cent; and remittent fever, for 5 per cent also.

Other authors, notably Stelwagon⁽²⁾ and McCoy⁽³⁾, attribute from 50 per cent to the majority of the deaths, in the nodular type of leprosy, to the direct effect of the disease.

Rake, on the other hand, found 29.11 per cent of 78 autopsies⁽⁴⁾ with some form of nephritis, and 30 per cent of another series of 90 autopsies⁽⁵⁾ with tuberculosis. Abraham⁽⁶⁾ also considered tuberculosis and nephritis as among the most important causes of death, though at the same time he still considered the ravages of leprosy as equally important factors in the mortality.

Manson (7), speaking of the cutaneous type of leprosy, attributed death usually to some intercurrent disease, such as, and especially, phthisis and nephritis.

Among the more recent writers on the subject, Harper (8) gives tuberculosis the first place, as a cause of death in 26.7 per cent; septic infection next, in 19.7 per cent; nephritis third, in 11.4 per cent; and leprosy fourth, in only 8.9 per cent of the total number of deaths.

Pineda's (9) tabulation of the findings in the 300 consecutive autopsies recently performed at the Culion Leper Colony also gives tuberculosis as the most frequent cause of death, this illness being responsible for 24 per cent; nephritis, for 16.3 per cent, broncho-pneumonia, for 9.3 per cent; dilatation of the heart, for 7.6 per cent; and malaria, *endocarditis amœbiasis*, lobar pneumonia, and gangrene for 5.6 per cent, 5 per cent, 3.3 per cent, 3 per cent, and 2.3 per cent of the deaths, respectively. Leprosy itself ranks, with gangrene, only in the tenth place as a cause of death.

On the whole, it may be said that the older writers had always considered leprosy as one of the most important causes of death among lepers. The more recent statistics show that tuberculosis and nephritis carry off the greatest number of victims, while leprosy itself is responsible for only a small fraction of the deaths.

Pineda's findings in the 300 autopsies referred to above are of value, but the number autopsied represented hardly one-third of the total number of deaths for the period corresponding to the performance of these autopsies; besides, the cases were also more or less selected. Moreover, it is believed that a simple presentation of the tabulated results of the autopsy work could not very well illustrate the tendency, if there was any, of an increase or decrease in the mortality from any disease and the influence of the treatment and of other factors on the death rate.

CHIEF CAUSES OF DEATH AMONG LEPERS AT THE CULION LEPER COLONY

A tabular analysis of the causes of death in the Colony since 1908 reveals, among other things, many vague terms which can hardly be called diagnoses. Such designations as diarrhea, enteritis, pulmonary congestion, chronic rheumatism, infantile convulsions, had been used rather frequently previous to 1922.

Another feature of the statistics previous to 1922 was the great variety of diagnoses, undoubtedly because of the grouping

together of a great number of patients coming from all parts of the Islands.

Epidemics of cholera and smallpox had occurred on various occasions because of the incoming of cases from outside; but, fortunately, the outbreaks were always successfully checked.

Children born of leper parents are shown to be susceptible to the same causes of death that affect the children of non-leper Filipinos.

While many of the deaths due to senile debility could probably be attributed to some other cause, the fact that is of interest is that many lepers live to a ripe old age in spite of their leprosy.

A more detailed analysis of the most important causes of death since 1908 is shown in the following table:

TABLE I.—*Proportion of deaths from ten chief causes of deaths to the total number of yearly deaths*

Causes of death	1909	1910	1911	1912	1913	1914	1915	1916
1. Leprosy.....	66.2	47.9	42.5	48.8	56.3	30.4	25.8	42.5
2. Tuberculosis.....	0.4	3.5	16.5	12.4	18.5	19.8	21.8	13.8
3. Beriberi.....	24.1	30.1	4.8	23.4	0	0.7	0.1	0
4. Nephritis.....	1.3	0.2	0.3	0	0.8	3.5	8.4	3.7
5. Dysentery and enteritis more than two years old.....	4.6	7.7	18.3	8.0	10.1	17.5	7.7	7.1
6. Pneumonia.....	0	0.4	4.2	0.8	1.6	1.9	4.5	6.7
7. Malaria.....	1.1	1.7	3.8	3.6	2.6	4.2	6.8	3.1
8. Gangrene, septicemia, etc.....	0	1.7	7.9	1.0	4.6	5.2	10.5	5.6
9. Organic diseases of the heart.....	0	2.1	4.4	3.2	3.2	1.4	5.2	3.2
10. Cerebral hemorrhage.....	0	1.2	0	0.4	1.4	0.5	0.7	0.8
11. All other diseases.....	1.8	3.3	6.9	8.0	12.3	10.5	15.4	8.0
Total number of yearly deaths.....	753	478	519	487	493	513	530	477

Causes of death	1917	*1918	*1919	1920	1921	1922	1923
1. Leprosy.....	27.4	12.1	14.0	18.7	21.7	7.1	2.5
2. Tuberculosis.....	22.1	15.4	12.8	31.3	32.0	51.4	46.4
3. Beriberi.....	0.2	0	2.5	1.0	2.6	0.7	0.5
4. Nephritis.....	3.3	2.1	2.0	2.0	3.1	6.9	18.2
5. Dysentery and enteritis more than two years old.....	7.0	8.3	12.5	12.4	7.3	2.9	1.4
6. Pneumonia.....	7.4	5.7	3.1	0.4	2.6	7.3	2.4
7. Malaria.....	6.1	5.3	7.2	7.7	6.2	2.9	1.4
8. Gangrene, septicemia, etc.....	9.2	7.9	5.8	4.4	3.7	3.4	1.8
9. Organic diseases of the heart.....	2.1	3.7	3.8	7.5	6.7	6.2	9.9
10. Cerebral hemorrhage.....	0.8	0.7	1.0	1.6	0.4	1.1	0.5
11. All other diseases.....	11.6	38.2	20.7	13.4	13.7	12.4	14.3
Total number of yearly deaths.....	455	834	583	492	450	546	542

NOTE.—^a Includes Asiatic cholera; ^b includes chronic bronchitis; ^c 25.9 per cent of the deaths were due to influenza in 1918, and 5.6 per cent in 1919.

Up to 1921, diseases of infancy, including diarrhea and enteritis of infants less than two years old, and senile debility were chiefly responsible for the deaths under "All other diseases." Since that time, there have been very few deaths recorded against senile debility, while infantile beriberi has been found to be chiefly responsible for the deaths during infancy.

1. *Leprosy* had been, during the first 10 or 11 years' existence of the Colony, considered as the most frequent cause of death, as the disease was responsible for more than 60 per cent of the deaths in 1909 and for 27 per cent in 1917. From 1918 to 1921, inclusive, it ranked next only to tuberculosis and caused about 15.8 per cent of all the deaths during these four years. Since 1922, it has become almost negligible as a mortality factor.

2. *Tuberculosis*.—From 1909 to 1913, the percentages of death from this disease were very low, and they average but 3.7 per cent of all deaths during those five years. In 1914 and 1915, 28 per cent of the deaths were attributed to it; in 1916, only 14 per cent; in 1917, 22 per cent; and in 1918, 15.4 per cent. For 1919, 1920, and 1921 the rates for tuberculosis were 23.3 per cent, 31.3 per cent, and 32 per cent, respectively. In 1922, it caused 51 per cent; and in 1923, 46 per cent of the deaths. In comparing percentages of deaths due to tuberculosis to the total number of deaths recorded for the provinces, Manila, and Culion, for corresponding periods of time, the Culion figures have invariably been found to be distinctly higher.

3. *Beriberi* used to be a frequent cause of death during the first five or six years after the establishment of the Colony, because of the insufficient and ill-balanced diet given to the lepers. However, in the last ten years very few deaths have been attributed to this sickness.

4. *Nephritis*.—Previous to 1922, death-percentages for nephritis had always been comparatively low, usually not exceeding 2 per cent. In 1922, almost 7 per cent of the deaths were attributed to it; and in 1923, more than 18 per cent.

5. *Dysentery and enteritis*.—Up to the last two years, deaths from these causes were more common than they are at the present time; but it is very probable that many of the previous cases were of a tuberculous nature or were terminal complications of nephritis, leprosy, chronic suppurations, rather than primary affections of the large and small intestines.

6. *Pneumonia* is not especially frequent among lepers, but it is apparently more fatal for them than for non-leper patients.

7. *Malaria*.—Formerly an uncommon cause of death when practically all the colonists still lived in the Colony proper, this illness became a more important factor in the mortality as

soon as many of the stronger patients moved out to outlying districts to engage in agricultural and fishing activities.

8. *Gangrene, septicemia, and other septic infections* had been for many years important causes of death, and at one time they caused 10.5 per cent of the deaths. This mortality was due to the frequency of these complications among the lepers, the patients' dread of operative intervention, and the lack of sufficient medical personnel. During the last two years, deaths from these causes have very appreciably diminished.

9. *Organic diseases of the heart*.—Previous to 1919, from two to five per cent of the deaths were attributed to heart diseases. In 1919, 1920, and 1921, the corresponding figures were 7.5 per cent, 6.7 per cent, and 6.2 per cent, respectively. Probably many of the cases were incorrectly diagnosed, for in 1922 the figure dropped to only 3.5 per cent. In 1923, however, about 10 per cent of the deaths were from this cause. This fact was borne out by the autopsy findings. Most of the recent deaths were due to acute cardiac dilatation whose nature is not yet clear.

10. *Cerebral hemorrhage* is not more frequent among lepers than among non-lepers, as it rarely causes more than one per cent of the deaths.

INFLUENCE OF THE CONSTITUTION AND ADEQUACY OF THE PERSONNEL ON THE MORTALITY STATISTICS

This factor has already been partly touched upon in the foregoing consideration. The outstanding features of the statistics of previous years, when the personnel and necessary facilities were very inadequate, were the great importance attached to leprosy as a cause of death, the relatively insignificant place given to tuberculosis until 1914, and the great number of uncertain diagnoses.

In 1921, Dr. H. W. Wade⁽¹⁰⁾, then member of the Leprosy Investigating Committee, had occasion to perform autopsy on 11 unselected cases, 30 per cent of which were diagnosed as tuberculosis by the hospital physician and 21.7 per cent as leprosy cases. The findings at the autopsy showed that at least 60 per cent of the cases died from tuberculosis and none died of leprosy. While the number autopsied was small, it was suf-

ficient to demonstrate the inaccuracies of former statistics, at least as far as the less easily recognizable diseases were concerned.

For 1922, after the arrival of the new medical and pathological staffs, a comparison was made between a series of purely clinical statistics of the causes of death and another in which the clinical findings were checked up by the autopsy. This comparison is shown in the following table:

TABLE II.—*Mortality statistics for 1922 (total deaths, 546)*

	Tubercu- loids	Nephri- tis	Cardiac affection	Gan- grene septic infection	Leprosy	Malaria	Dysen- tery
(a) Clinical statistics.....	51.4	6.7	3.6	3.6	7.1	2.8	2.8
(b) Clinical, corrected by autop- sy, findings.....	54.5	8.2	4.2	3.6	(¹)	2.8	2.8

¹ Not autopsied.

The small differences between the two series of statistics were chiefly due to unattended deaths outside of the hospitals and to cases with undetermined diagnosis. The deaths attributed to leprosy were all diagnosed by the physician who had been in charged of the hospitals for five years previous to 1922; these deaths occurred before the beginning of the autopsy work.

INFLUENCE OF LEPROSY TREATMENT ON THE MORTALITY AMONG LEPERS

The writers have not been able to find in the literature on the subject any mention of the effect of chaulmoogra treatment on the mortality among lepers. Among the more recent workers on leprosy, Morrow(11) thinks that some cases seem to fare ill under the treatment, while Muir(12) says that large doses may excite latent tuberculosis infection.

In their two year's experience with various chaulmoogra derivatives, especially the ethyl-esters, in the treatment of several thousand lepers, the writers have seen a few deaths from acute exacerbation of the disease excited by the treatment, and one case of fatal drug embolism in the lungs and other internal organs. But most of the injurious effects of the drugs were seen in cases suffering from tuberculosis and nephritis.

A comparison of the mortality statistics for groups of treated and untreated lepers is shown in the following table:

TABLE III.—*Chief causes of death in treated and in untreated cases*

Group	Total deaths	Tuberculosis	Nephritis	Leprosy	Cerebral hemorrhage	Others
		<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Treated.....	282	32.2	26.8	2.4	2.1	37.0
Untreated.....	415	74.4	9.8	2.6	1.6	11.6

The larger differences in the percentages of death for the treated and the untreated cases are seen in tuberculosis, nephritis, and other diseases. Apparently, death from tuberculosis is much more frequent among the untreated cases; but it must be remembered that the majority of the patients in this group had tuberculosis. However, it is believed that the treatment was partly responsible for the great increase in the mortality due to tuberculosis in 1922 over that of 1921. Many tuberculosis cases then were given treatment, and most of these soon showed rapid progress of their tuberculous affection; so that all cases of tuberculosis were dropped from the treatment as soon as they were recognized, with the result that the proportion of deaths from tuberculosis to the total deaths went down from 54.5 per cent in 1922 to 49.2 per cent in 1923.

Nephritis was almost thrice as frequent a cause of death among the treated as in the untreated cases in spite of the fact that the latter had more advanced leprosy and, presumably, more damage kidneys than had the former at the beginning of their treatment. Again, the percentages of death due to nephritis for 1922 and 1923, corresponding to the first and second years of intensive treatment, were 8.2 per cent and 18.4 per cent, respectively, showing that after a longer period of treatment more cases die as a result of associated kidney injury.

Chaulmoogra treatment, as given in Culion, apparently has no influence on the mortality from leprosy: the treated and the untreated cases die of it with equal frequency.

The greater number of deaths from other diseases is due to the greater variety of life of the much stronger patients under treatment, who are exposed to all sorts of influences.

RELATION OF THE DURATION OF LEPROSY TO THE CHIEF CAUSES OF DEATH

To find out if there exists a relationship between the duration of leprosy and the cause of death, a table was prepared showing the most important causes of death in the different

stages of development of the disease, principally as regards its duration, which was arbitrarily divided into five-year periods. This table is shown below:

TABLE IV.—*Chief causes of death in relation to the duration of leprosy*

Duration of disease	Number of deaths	Tuberculosis	Nephritis	Heart diseases	Pneumonia	Gangrene septic infection	Dysentery and enteritis	Leprosy	Cerebral hemorrhage
Years	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Below 5.....	206	36.8	19.9	12.6	7.7	1.9	0.9	1.9	3.3
5 to 10.....	278	58.6	14.7	7.9	2.8	1.7	2.1	2.5	1.0
10 to 15.....	154	65.5	14.2	3.8	1.9	2.6	0.6	3.2	1.3
15 to 20.....	45	77.7	6.6	2.2	6.6	0.0	2.2	0.0	0.0
20 to 30.....	15	80.0	6.6	6.6	0.0	6.6	0.0	0.0	0.0
30 and over...	(*)								

* Too few.

From the foregoing table, it is seen that the longer the duration of leprosy, the greater are the chances for a patient to die of tuberculosis; but in the case of nephritis, it is apparently the other way. The explanation given for this behavior of nephritis cases is that lepers who have survived leprosy longest, because of greater resistance to the infection or because of a milder degree of infection, probably have their kidneys fairly intact. Moreover, most of the cases of short duration had been given the ethyl-ester treatment; and this treatment, as has been pointed out, increases the death due to nephritis.

Of the concurrent acute infections, gangrene—as is to be expected—is more frequent among the cases of longest duration.

Death from leprosy shows a decided tendency to increase up to the fifteenth year of the disease, after which very few cases are recorded. This fact is probably due to a milder and more chronic form of leprosy, or to a natural tendency for the disease to be self-arrested after it has run its course for some time.

Cerebral hemorrhage, on the other hand, is apparently more frequent in the earlier cases than in those of longer duration.

RELATION OF THE TYPE OF LEPROSY TO THE CHIEF CAUSES OF DEATH

While some authors (Stelwagon, Gaskill, and McGoy) definitely states that most of the cases of nodular leprosy die as the direct result of the disease, others (Manson-Bahr and Harper) emphasize the importance of tuberculosis and nephritis as the direct causes of death in this type of the disease. To find out

if there exists a definite relationship between the type of disease and the cause of death, the following table (based on data obtained from the treatment clinics) was prepared:

TABLE V.—*Chief causes of death in the three main types of leprosy*

Type of disease	Number of deaths	Tuberculosis	Nephritis	Cardiac affection	Pneumonia	Gangrene-septic infection	Dysentery and enteritis	Leprosy	Cerebral hemorrhage
		<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Cutaneous.....	73	28.7	28.7	8.2	9.5	1.3	2.7	4.1	1.3
Mixed.....	223	34.0	25.5	11.2	6.2	3.5	3.1	3.2	1.7
Nerve.....	31	51.6	16.1	0.0	6.4	6.4	3.2	0.0	3.2

From the table above, it is seen that in the cutaneous type of leprosy, deaths from tuberculosis and nephritis are equally frequent, each being responsible for about 28.7 per cent; in the mixed type, tuberculosis caused 34 per cent of the deaths while nephritis only 25.5 per cent; and in the neural type, tuberculosis was responsible for 51.6 per cent and nephritis for only 16 per cent of the deaths.

Deaths from organic heart disease are apparently more frequent in the cutaneous and mixed types.

Deaths from gangrene, infected wounds, and septic infection are more frequent in the mixed neural types. The other concurrent acute infections affect all types almost equally.

Leprosy itself is shown here to be distinctly more fatal in those affected with cutaneous and mixed forms of the disease.

Cerebral hemorrhage is apparently more frequent in the neural than in the cutaneous and mixed cases.

SUMMARY AND CONCLUSIONS

(1) The mortality statistics for the period from 1908 to 1921, inclusive, have been found not to be very reliable because of inaccuracy of diagnosis, and are, therefore, of little value for comparison with those for 1922 and 1923.

(2) The increase in the medical personnel and in the facilities for performing more accurate diagnosis has demonstrated the error of previous statements in ascribing to leprosy an important rôle as a cause of death. Besides obviating to a great extent errors in diagnosis, it has also tended definitely to decrease the proportion of deaths due to diseases that are susceptible to prompt and adequate treatment, such as the dysenteries, malaria, and gangrene and kindred septic infections.

(3) During the last two years, the chief causes of death among lepers at the Culion Leper Colony were: tuberculosis, 52 per cent; nephritis, 13.3 per cent; organic heart diseases, 8 per cent; leprosy, 4.6 per cent; broncho-pneumonia, 3 per cent; malaria, 2.6 per cent; dysentery and enteritis, 2.5 per cent; and gangrene, infected wounds, and other septic infections, 2.3 per cent.

(4) Leprosy treatment in the form of chaulmoogra-oil derivatives, especially the ethyl-esters, tends to increase the death-rate among tuberculosis cases; it definitely increases mortality from nephritis. The increase in the deaths due to acute cardiac failure (acute dilatation) cannot be attributed to the treatment; its association with the increase in nephritis is suggestive of a possible relation between the two, but beriberi should also be considered as a possible cause. Leprosy treatment, in the advanced cases; apparently does not decrease the number of deaths due to leprosy; in fact, in a few cases it seems to precipitate an acute, fatal flare-up of the disease. Finally, the leprosy treatment at the Culion Leper Colony during the last two years has not diminished the mortality; on the contrary, its routinary use in all cases has tended to increase it. This fact strongly emphasizes the necessity of selecting cases for treatment and of giving this treatment scientifically.

(5) The proportion of deaths due to tuberculosis is highest in the cases of longest duration and lowest in those of shortest duration of leprosy. The reverse of this statement is true in the case of nephritis for which, however, the treatment factor in the earlier cases is undoubtedly partly responsible.

Deaths from leprosy also increase with the duration of the disease up to about the fifteenth year of infection; after a duration of 20 years, very few patients die as a result of the disease, probably, because at this stage it has already become arrested or attenuated.

(6) In the Culion Leper Colony, tuberculosis and nephritis are responsible for practically the same number (28.7%) of deaths among the cutaneous cases. In the mixed type, tuberculosis is more frequent (34%) than nephritis (25.5%); in the nerve type, tuberculosis is responsible for more than 50 per cent of all the deaths, while nephritis is relatively unimportant as a cause of death.

ACKNOWLEDGMENT

We wish to thank Dr. Jose Avellana Basa, former Chief of the Colony, for the use of his tables and the official register of deaths.

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A SURVEY OF THE SANITATION OF SCHOOL BUILDINGS IN THE PHILIPPINE ISLANDS

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Taken in general, the medical inspection of schools is an extension of the activities of the school in which the educator and the physician join hands to insure for each child such conditions of health and vitality as will best enable him to take full advantage of the education offered by the Government. Its object is to improve health conditions among school children, to safeguard them from disease, and to render them healthier, happier, and more vigorous. The idea is founded upon a recognition of the intimate relationship between the physical and mental condition of the children and the consequent dependence of education on health conditions.

In this work, the sanitation of school buildings is also included; and this paper is only limited to this part of the subject. The discussion also embraces the surrounding grounds, water supplies, sewage disposal, playgrounds, and other sanitary facilities.

The sanitation of schools in the cities and municipalities is as important as that of the barrio schools, which are designed to yield the maximum of comfort and convenience. As the construction and the repair of schools involve a great amount of money, the sanitation of the school buildings must have to be studied with the utmost care and precision.

The present laws of this country on the subject provide for a more uniform medical inspection of school children, and section 928 of the Administrative Code confers upon the Philippine Health Service the control over the sanitation of the school-houses and school premises.

However, little attention has been given to the sanitary condition under which our children receive their education in the schools. Very little has been given to the health of the child, or to the effect which the school environment has on his welfare. This shortcoming is especially marked in the barrio schools, which usually suffer from inadequate financial support, altho this condition is somewhat modified in cities and towns, including Manila.

Now, then, in order to determine the sanitary condition of school buildings with a view to adopt a suitable remedy based upon the results of the findings, a survey has been conducted in Manila as well as in the provinces. In the city, the following deficiencies were found:

TABLE I.—*Schools north of the Pasig River*

Deficiencies found	Primary, intermediate, and secondary	Percentage of deficiencies
Total number of schools surveyed.....	53	.....
Absence of toilets.....	2	3.77
Toilets in poor sanitary condition.....	22	41.77
Presence of foul odors.....	14	26.41
No washing facilities.....	8	15.09
No urinals.....	5	9.43
No toilet paper.....	43	81.11
No towels.....	39	73.58
Classrooms defective or overcrowded.....	7	13.20
Deficient ventilation and light.....	10	18.86
No individual drinking cups.....	5	9.43
Inadequate or no playground.....	37	69.81
Insanitary sweeping.....	13	24.52
Defective plumbing.....	4	7.54

TABLE II.—*Schools south of the Pasig River*

Deficiencies found	Primary, intermediate, and secondary	Percentage of deficiencies
Total number of schools surveyed.....	22	.....
Absence of toilets.....	0	0
Toilets in poor sanitary condition.....	9	40.90
Presence of foul odors.....	6	27.27
No washing facilities.....	5	22.72
No urinals.....	1	4.54
No toilet paper.....	14	63.63
Classrooms defective or overcrowded.....	0	0
Deficient ventilation and light.....	3	14.09
No individual drinking cups.....	5	22.72
Inadequate or no playground.....	5	22.72
Insanitary sweeping.....	13	59.09
Defective plumbing.....	0	0

It may be seen from these data that some schools are not provided with toilets and urinals; and if these are present, they are inadequately ventilated and lighted, and water stagnates around the closets. Many are without playgrounds, or they are too small to accommodate the children, and the grounds are not properly filled in. Some classrooms are also small and poorly ventilated. In some buildings, washing facilities are only available for teachers. In several schools there were no towels in the children's toilets.

There are, however, two schools north of the Pasig River that are not provided with toilets, and in one the children have to use the public toilet. There are also a smaller number of playgrounds. A greater number of toilets are not provided

with urinals and toilet paper. There is no overcrowded condition in the classrooms of the schools south of the Pasig River, and the schools in general there are found in a better sanitary condition than are those on the other side of Manila.

For the survey in the provinces, questionnaires have been sent out. The provinces of Abra, Albay, Agusan, Batangas, Cebu, Capiz, Cotabato, Davao, La Union, Leyte, Mountain Province, Nueva Ecija, Pangasinan, Surigao, and Tarlac have submitted more or less complete reports.

Practically the same deficiencies are found in the provinces as in the city; altho in the former, there are more school buildings without washing facilities and urinals, and a greater number are not provided with drinking-water receptacles and individual drinking-cups. Insanitary sweeping is more commonly practiced in the provinces, altho toilet paper is less commonly used in the City Schools north of the Pasig River. Because of more ground space in the provinces, most of the schools are provided with playgrounds. The table below shows the survey of school buildings in the provinces:

TABLE III.—*Schools in the provinces*

Deficiencies found	Primary, intermediate, and secondary	Percentage of deficiencies
Total number of schools surveyed.....	708	.....
Toilets in poor sanitary condition.....	163	23.02
Presence of foul odors.....	143	20.19
No washing facilities.....	432	60.01
No urinals.....	555	78.88
No toilet paper.....	545	76.97
Classrooms with deficient ventilation and light.....	26	3.67
No individual drinking cups.....	669	94.49
Inadequate or no playground.....	98	13.84
Insanitary sweeping.....	582	82.20
No drinking water receptacles.....	587	82.88

After the survey, regulations for the sanitation of schools based upon the findings have been prepared by the Philippine Health Service and were made effective immediately. These regulations lay special stress upon the ventilation of school buildings, adjustable seats and desk, the prohibition of the use of common towels and common drinking-cups, the sanitary method of sweeping and dusting, and the care of the floors.

Then, the findings of this survey were submitted to the school authorities in the City of Manila and in the provinces, along with the necessary recommendations for their remedies. At this writing, many of the deficiencies have already been remedied in Manila and in the provinces in so far as financial conditions permit.

Briefly enumerated, these are the sanitary conditions found in school buildings. The discussion makes imperative more thorough and frequent inspection of the sanitation of schools, and a system—patterned after that of the most civilized countries in the world and applicable in this country—will have to be adopted. Every school should have a score-card, and each school is to be graded in accordance therewith. This card should lay special stress on the size location, and drainage of the building, its internal structure, ventilation, cleaning system, water supply and toilet facilities, location, details of construction, such as the size, shape, floors, walls, doors, and blackboards, illumination and equipment of the classrooms, with particular attention to the adjustable seats and desks to fit a child of any age, not to omit mention of the playground.

Finally, as great a stress as that of the medical inspection of school children must be given to the inspection of the sanitation of school buildings; and in their construction, the Philippine Health Service must always be consulted in order to pass and approve all sanitary facilities connected with such buildings. This arrangement will insure the best sanitation possible in the schools.

**PHILIPPINE HEALTH SERVICE
MANILA**

**ADMINISTRATIVE ORDER }
No. 32**

SEPTEMBER 28, 1926

Subject: Health Certificate

1. By virtue of the provisions of section 893 of the Revised Ordinances of the City of Manila, as amended by section 1 of Municipal Ordinance No. 1473, the following regulations for the control and inspection of all food handlers and persons engaged in the preparation, manufacture or sale of any kind of food and drinks are hereby made:

RULE 1. Any person handling food or drinks or engaged in the preparation, manufacture, distribution or sale of any kind of food or drinks shall be provided with a health certificate on P. H. S. Form No. 184.

RULE 2. The health officers in charge of health districts shall issue the required health certificate to peddlers and the medical officer in charge of the section of licenses to those who conduct their business in a permanent place.

RULE 3. The applicants for health certificates shall be examined by the medical officers in charge of the health districts and section of licenses or their assistants to determine whether or not they are physically fit to carry on their business and free from any kind of communicable diseases, including tuberculosis and venereal diseases. Specimens, such as stool, blood, etc., shall also be required to be taken from such persons for proper examination by the Bureau of Science for the detection of carriers.

RULE 4. The health officers and sanitary inspectors in the course of their inspection shall require from any of the person mentioned in Rule 1 hereof to produce his health certificates for identification purposes, and in the event of his failure to do so steps leading to the suspension of his business operations with the condition that he shall not be allowed to resume his business relations with the public until after he has obtained his health certificate from the medical officer concerned will be recommended to the proper authorities.

RULE 5. The data contained in the health certificate shall be the same as those noted in the holder's card filed in the headquarters of the health district or section of licenses, as the case may be.

RULE 6. In case that a health certificate is cancelled because the holder thereof is a carrier of communicable diseases, the health officers in charge of the health districts and section of licenses should be immediately notified of such cancellation so that the person affected may not be able to obtain another certificate from a district other than that which issued the certificate. Recently recovered cases of cholera, typhoid, and dysentery shall be considered as carriers of such diseases for the purposes of this order.

RULE 7. Blank forms of health certificate shall not be prepared by sanitary inspectors. These forms should be kept in drawers properly locked by the medical officers in charge of the health districts and section of licenses or their assistants.

2. The importance which these regulations would bring about in connection with the sanitary control of food handlers can not be overemphasized, and it is highly important that all medical officers concerned should see to it that the provisions of this order are strictly complied with.

JACOBO FAJARDO

Director of Health

Approved:

E. A. GILMORE

Secretary of Public Instruction

MISCELLANEOUS

DOCTOR ARENAS FROM INSPECTION TRIP

District Inspector Felipe Arenas went for an inspection trip to Pangasinan. After inspecting the various municipalities of the province, he attended the inauguration of an additional wing to the Provincial Hospital in Dagupan.

He found the general sanitary condition satisfactory on the whole. The general mortality rate of the province is declining. A mild dysentery outbreak that was reported in July and August has been controlled.

DOCTOR LLORA RETIRED

Dr. Manuel Lloras's retirement, under Act 3173, has been approved effective October 1, 1926, at a recent meeting of the Board of Pension and Retirement of the Service. Doctor Lloras has to his credit 22 years of faithful and satisfactory services. As a health officer, he has performed his duties conscientiously and it is lamented that he is leaving the Government service when his period of usefulness has not yet ended.

ANTIQUÉ

A standard dispensary building will be constructed in Sibalom. The municipal council and the local Woman's Club will give a joint aid of ₱3,000, provided the health fund of the province will contribute the amount of ₱2,000, making a total of ₱5,000 for the construction of this project. A committee for the acquisition of land for the dispensary site has been appointed by the municipal council.

Dr. Pedro Joven, chief of vaccination, inspected the work of the vaccinating party assigned in the province. During his inspection he was accompanied by the district health officer.

BATANGAS

Inspection of school children.—Twenty-six schools and 2,402 children were inspected and physically examined; 518 persons were injected with pure cholera vaccin; 93 Antipolo closets were constructed in 14 municipalities; 41 conferences were given by presidents sanitary divisions and district nurses; campaign for a better sanitation, specially in the barrios.

Dr. J. P. Bantug, Executive Officer, made a general inspection of the province during the month.

Twenty-five (25) cases of yaws at Bauan and 7 cases of Taal were given treatment with neosalvarsan.

CAMARINES SUR

Doctor Intengan with Directors Vargas and Gil were at Naga during the latter part of the month. Doctor Intengan inspected Naga and the towns in the *partido* of Lagonoy.

LAGUNA

PERSONNEL

District Inspector Jose P. Bantug made a thorough inspection of the province during the early part of the month.

MINDORO

1. *Examination of school children.*—Six hundred thirty-five school children were examined during the month, by the president, First Sanitary Division. The most common diseases detected were dental caries, tonsillitis, diseases of the eyes and skin diseases. The defects were treated at the municipal dispensaries except those with dental caries who were referred to their dentists for treatment. Cases of whooping cough were noted among school children.

Malaria campaign.—The presidents of sanitary divisions are giving lectures every week on the prevention and treatment of malaria, following a circular letter sent out by the office. The sale of quinine by the school teachers is progressing.

Smallpox vaccination.—Two thousand eight hundred thirty-eight smallpox vaccinations were performed during the month. Vaccinating party No. 2, which was doing vaccination work in San Jose during the month of August, reported 1,581 vaccinations during the month.

SULU

PERSONNEL

Assistant Chief Sanitary Inspector Panique was directed to proceed to Tonquil for inspection and verification of the work of the dispensary attendant stationed thereat.

District nurse Jose Garcia-Laurel was directed to proceed to Siasi to conduct a yaws clinic. One hundred five were given injections in the hospital.

A malaria campaign was commenced at Laminusa. Dispensary attendant Abdul Attip Rasul was directed to have charge of the work.

ZAMBOANGA

Dr. C. B. Enriquez, President of the First Sanitary Division, has been designated as acting district health officer during the absence of the incumbent.

Dr. Jesus A. Nolasco started a hookworm campaign in the barrio of Ilaya, Municipality of Dapitan, with the assistance of Laboratory Technician Evangelista Paez.



GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of September, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926 BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	290,009
Spaniards.....	1,925
Other Europeans.....	1,126
Chinese.....	17,856
All others.....	2,186
Total.....	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I, MEISIC:	
1. Tondo.....	79,705
2. San Nicolas.....	28,752
3. Binondo.....	17,398
Total.....	125,855
No. II, SAMPALOC:	
1. Santa Cruz.....	51,566
3. Quiapo.....	15,658
6. San Miguel.....	4,377
7. Sampaloc.....	39,186
Total.....	110,786
No. III, PAGO:	
8. Port Area.....	4,754
9. Intramuros.....	14,437
10. Ermita.....	15,931
11. Malate.....	16,250
12. Paco.....	15,880
13. Pandacan.....	5,785
14. Santa Ana.....	6,569
Total.....	70,446
Grand total.....	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, SEPTEMBER, 1926**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	757.93	26.5	33.3	5	23.3	5	29.9	29.9
11-20.....	58.05	27.2	36.0	20	23.5	15	30.0	30.2
21-30.....	55.60	26.5	32.8	22	23.4	24, 30	32.9	30.0

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	86.7	93	7	82	1
11-20.....	83.5	87.8	18	80.3	16
21-30.....	88.1	91.9	28	84.4	26

Date	Wind			Atmidometer ² (open air)		
	Prevailing direction	Velocity		Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum			
		Kms.	Kms.	mm.	mm.	
1-10.....	NE quad	1,952.5	340.0	8	20.3	1, 10
11-20.....	SW, NE	1,836.0	247.5	13	31.0	15
21-30.....	SW, NE	1,432.5	515.5	26	15.3	25

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	36 25	9 45	1	137.9	8
11-20.....	45 50	7 30	12	28.7	4
21-30.....	10 30	4 10	30	47.6	8

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	7	7	14	54.89
Filipinos.....	641	555	1,196	50.21
Spaniards.....	8	3	6	37.86
Other Europeans.....	4	2	6	61.87
Chinese.....	33	24	57	38.86
All others.....	7	4	11	61.26
Total and average.....	695	595	1,290	49.68

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MERIC:							
1. Tondo.....	153	130	283	10	7	17	300
2. San Nicolas.....	43	33	76	4	3	7	83
3. Binondo.....	82	22	54	.....	1	1	55
Total.....	228	185	413	14	11	25	438
No. II, SAMPALOC:							
4. Santa Cruz.....	89	79	168	5	10	15	183
5. Quiapo.....	31	14	45	.....	1	1	46
6. San Miguel.....	10	15	25	1	.....	1	26
7. Sampaloc.....	124	101	225	6	6	12	237
Total.....	254	209	463	12	17	29	492
No. III, PACO:							
8. Port Area.....	.....	.....	.....	.....	.....	.....	.....
9. Intramuros.....	28	32	60	3	2	5	65
10. Ermita.....	36	22	58	8	4	12	70
11. Malate.....	53	59	112	9	3	12	124
12. Paco.....	30	32	62	3	2	5	67
13. Pandacan.....	8	10	18	2	.....	2	20
14. Santa Ana.....	12	7	19	.....	.....	.....	19
Total.....	167	162	329	20	11	31	360
Grand total.....	649	556	1,205	46	30	76	1,281

Attended by physicians, living, 410; stillbirths, 17.

Attended by midwives, living 85; stillbirths, 4.

Attended by families, living, 796; stillbirths, 23.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	1	1	2	7.77
Filipinos.....	334	273	607	25.48
Spaniards.....	.....	1	1	6.23
Other Europeans.....	1	.....	1	10.81
Chinese.....	26	6	32	21.82
All others.....	.....	.....	.....	.....
Total and average.....	362	281	643	24.75

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MINILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I, MABIC:			
1. Tondo.....	120	88	208
2. San Nicolas.....	28	17	45
3. Binondo.....	12	5	17
Total.....	160	110	270
No. II, SAMPALOC:			
4. Santa Cruz.....	66	36	102
5. Quiapo.....	10	9	19
6. San Miguel.....	7	7	14
7. Sampaloc.....	64	51	115
Total.....	147	103	250
No. III, PACO:			
8. Port Area.....			
9. Intramuros.....	8	9	17
10. Brnita.....	8	7	15
11. Malate.....	22	31	53
12. Paco.....	13	12	25
13. Pandacan.....	4	2	6
14. Santa Ana.....		7	7
Total.....	55	68	123
Grand total.....	362	281	643

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	110	80
Divorced.....		
Widowed.....	26	54
Single.....	283	183
Conditions not stated.....	1	2
Total.....	420	319
Grand total.....	739	

Stillbirths.....	44
Number of deaths with medical attendance.....	473
Number of deaths without medical attendance.....	206

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	117	69	8	11	206
1 year plus.....	43	27	4	.....	74
2 years plus.....	20	14	1	4	39
3 years plus.....	11	11	3	1	26
4 years plus.....	9	5	.....	1	15
5 to 9 years.....	11	10	.....	1	22
10 to 14 years.....	3	9	2	.....	14
15 to 19 years.....	9	8	4	1	22
20 to 24 years.....	14	11	6	3	34
25 to 29 years.....	17	12	6	1	36
30 to 34 years.....	13	8	6	4	31
35 to 39 years.....	11	11	5	.....	27
40 to 44 years.....	8	13	1	2	24
45 to 49 years.....	11	10	3	.....	24
50 to 54 years.....	16	7	.....	3	23
55 to 59 years.....	13	5	3	1	22
60 to 64 years.....	12	15	1	1	29
65 to 69 years.....	6	3	2	.....	11
70 to 74 years.....	10	8	1	1	20
75 to 79 years.....	3	5	.....	.....	8
80 to 84 years.....	1	8	.....	.....	9
85 to 89 years.....	2	4	1	.....	7
90 to 94 years.....	1	5	.....	.....	6
95 to 99 years.....	1	2	.....	.....	3
100 years and over.....	.....	1	.....	.....	1
Age not stated.....	.....	.....	.....	.....	.....
Total.....	362	281	57	37	737

NOTE.—One male Filipino and one female Filipino, about 25 years and 50 years of age respectively, permanent residence unknown, not included in the above table.

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA--Continued

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
108-127	<i>VI. Diseases of the digestive system</i>													
111	Ulcer of the stomach and duodenum:													
112	a. Ulcer of the stomach:													
113	Other diseases of the stomach (cancer excepted):			3	1									1
114	Diarrhea and enteritis under 2 years of age:			21	10									3
115	Diarrhea ad enteritis (2 years and over):			6	3					1				10
116	Diseases due to other intestinal parasites:													
117	c. Nematodes (other than ancylostoma):				2									2
118	Appendicitis and typhilitis:			1	1					1				3
119	Hernia, intestinal obstruction:													
120	b. Intestinal obstruction:			1										1
121	c. Cirrhosis of the liver:													
122	b. Not specified as alcoholic:			2	2					1				1
123	Other diseases of the liver:			1	1					2				6
124	Peritonitis without specified cause:													2
125-142	<i>VII. Nonspecific diseases of the genito-urinary system and antra</i>													
128	Acute nephritis (including unspecified under 10 years of age):			5	7									12
129	Chronic nephritis (including unspecified 10 years and over):			10	8					3				21
130	Diseases of the bladder:				1									1
131	Benign tumors of the uterus:				1					1				1
143-150	<i>VIII. The puerperal state</i>													
143	Accidents of pregnancy:													
144	a. Abortion:													
145	b. Other accidents of labor:				1									1
146	c. Other surgical operations and instrumental delivery:				1									1
147	d. Others under this title:				1									1
148	Puerperal albuminuria and convulsions:				3									3
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
155	Acute abscess:			3	1									4

87-96 *IV. Diseases of the circulatory system*

88	Endocarditis and myocarditis (acute)	1	1	2
90	Other diseases of the heart	1	2	3
91	Diseases of the arteries:			
	b. Arteriosclerosis		1	1

97-107 *V. Diseases of the respiratory system*

99	Bronchitis:			
	a. Acute	2	1	3
	b. Chronic	1		1
100	Broncho-pneumonia:			
	a. Broncho-pneumonia	4	2	6
101	Pneumonia:			
	a. Lobar	4		4
102	Pleurisy		1	1
107	Other diseases of the respiratory system (tuberculosis excepted):			
	c. Others under this title	1		1

108-127 *VI. Diseases of the digestive system*

112	Other diseases of the stomach (cancer excepted)		1	1
113	Diarrhea and enteritis (under 2 years of age)		3	4
114	Diarrhea and enteritis (2 years and over)		1	2
117	Appendicitis and typhilitis	1		1
126	Peritonitis without specified cause		2	2

128-142 *VII. Nonvenereal diseases of the genito-urinary system and anæmia*

128	Acute nephritis (including unspecified under 10 years of age)	1	2	3
129	Chronic nephritis (including unspecified 10 years and over)	1		2
132	Calculi of the urinary passages	1		1

143-150 *VIII. The puerperal state*

143	Accidents of pregnancy:			
	c. Others under this title		1	1
146	Puerperal septicæmia		1	1

151-154 *IX. Diseases of the skin and of the cellular tissue*

152	Furuncle	1		1
153	Acute abscess		2	2

154- *XIII. Old age*

164	Senility		1	1
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NUMBER OF DEATHS BY CAUSES NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

International numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
165-203	<i>XIV. External causes</i>													
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
	b. Street-car accidents			1										1
197	c. Automobile accidents			1	1									2
198	Homicide by firearms			1										1
204-205	Homicide by cutting or piercing instruments			2										2
	<i>XV. Ill-defined diseases</i>													
205	Cause of death not specified or ill defined:													
	a. Ill defined			1	1									1
	b. Not specified or unknown													1
	Total	3		51	36					2	1	1		94
	Grand total	3		87						3		1		94

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
16. Dysentery:						
b. Bacillary.....					1	1
21. Erysipelas.....					1	1
29. Tetanus:						
a. Umbilical.....				4	1	5
32. Tuberculosis of the meninges and central nervous system.....					2	2
38. Syphilis.....					2	2
55. Beriberi.....	1			12	39	52
56. Rickets.....					1	1
71. Meningitis:						
a. Simple meningitis.....					4	4
90. Other diseases of the heart.....					1	1
99. Bronchitis:						
a. Acute.....					14	14
b. Chronic.....					4	4
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....				1	28	29
b. Capillary bronchitis.....					2	2
101. Pneumonia:						
a. Lobar.....					2	2
102. Pleurisy.....					2	2
112. Other diseases of the stomach (cancer excepted).....					1	1
113. Diarrhea and enteritis.....					14	14
124. Other diseases of the liver.....					1	1
126. Peritonitis without specified cause.....					1	1
128. Acute nephritis.....					5	5
153. Acute abscess.....					3	3
159. Congenital malformations (stillbirths not included):						
b. Congenital malformation of the heart.....				1		1
c. Others under this title.....			1	1		2
160. Congenital debility, icterus and sclerema.....	16	4	2	14	8	44
161. Premature birth; injury at birth:						
a. Premature birth (not still-born).....	3	2		2		7
b. Injury at birth (not stillborn).....	1					1
162. Other diseases peculiar to early infancy.....	1	1		1		3
Total.....	22	7	3	36	137	205

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	21,570
Number of rats caught by spring traps.....	3,005
Number of cage wire traps set.....	660
Number of rats caught by cage wire traps.....	3
Number and kind of baits (coconuts).....	22,230
Number of poison portions placed.....	12,906
Number of rats found poisoned.....	264
Number of rats killed by clubs and other weapons.....	518
Number of rats found dead from other causes.....	564
Total number of rats otherwise caught, found dead or killed.....	4,754
Total number of rats sent to the Laboratory for examination.....	4,754
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF SEPTEMBER, 1924, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths				
I.	No. 1.....	4	2	.....	.....	.....	1	.....	4	2	1	.....	5	2
	No. 2.....	3	1	1	.....	.....	.....	.....	3	1	1	.....	4	1
	No. 3.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 4.....	2	1	1	.....	.....	1	1	2	1	2	1	4	2
II.	No. 5.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 6.....	3	1	2	.....	.....	.....	.....	3	1	2	.....	3	1
	No. 7.....	3	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	3	.....
	No. 8.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.	No. 9.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 10.....	1	.....	1	.....	.....	.....	.....	1	.....	1	.....	2	.....
	No. 11.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 12.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	1	1	1
	No. 13.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 14.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total.....	16	5	6	1	.....	.....	2	1	16	5	8	2	24	7

REMARKS:

Cases confirmed as typhoid fever.....

Cases confirmed as paratyphoid fever.....

By autopsy.....

By blood culture.....

By widal reaction.....

By urine examination.....

By feces examination.....

By clinical symptoms.....

Cases reported among non-resident persons not included in the table.....

Deaths reported among non-resident persons not included in the table.....

Typhoid carrier—None

24

1

13

2

CONFIRMED CASES

Health districts	Hospital						Home						Total		Grand total	
	Male		Female		Male		Female		Male		Female		Total		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.	5	3	2	3	3	7	7	8	6	9	10	17	16		
	No. 2.	1	1	1			2	1	1	1	3	1	3	2		
	No. 3.															
	No. 4.	4	1	1	2	2	1	1	6	3	1	2	7	5		
II.	No. 5.	1							1				1			
	No. 6.															
	No. 7.	4	2	2	1	1	2	1	5	2	4	2	9	4		
	No. 8.															
III.	No. 9.															
	No. 10.															
	No. 11.	1	1	2	1	1	1	1	2	2	3	2	5	4		
	No. 12.			1							1		1			
	No. 13.															
	No. 14.															
Grand total.	15	8	8	8	6	7	13	11	22	14	21	17	43	31		

REMARKS:

Amoebic dysentery
 Bacillary dysentery
 Unspecified

Cases reported among non-resident persons not included in the table
 Deaths reported among non-resident persons not included in the table

Dysentery carrier—1

3
 28
 12
 7
 3

CHOLERA REPORTED DURING THE MONTH OF SEPTEMBER, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female				
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths
I. { No. 1. No. 2. No. 3.																				
	2			*1									2			1			3	1
II. { No. 4. No. 5. No. 6.																				
	1																			
III. { No. 7. No. 8. No. 9. No. 10. No. 11. No. 12. No. 13. No. 14.																				
Grand total	3			*1									3			1			4	*1

* Non-resident but contracted the disease in Santa Cruz, Manila.

REMARKS:

Two more cases among non-resident persons were reported, one of them followed by death is included in the table being city infection, the other not included, it being from Rizal Province.

Cholera carrier—27

DIPHTHERIA REPORTED DURING THE MONTH OF SEPTEMBER, 1926, CITY OF MANILA

447

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	1	No. 1.....	1	1	2
			No. 2.....											
			No. 3.....											
II.	No. 4.....	1	1	1
			No. 5.....											
			No. 6.....											
			No. 7.....											
			No. 8.....											
III.	No. 9.....	1	1	1
			No. 10.....											
			No. 11.....											
			No. 12.....											
			No. 13.....											
Grand total	1	No. 14.....	5	1	5	6
			No. 15.....											

REMARKS:

Cases reported among non-resident persons not included in the table
Deaths reported among non-resident persons not included in the table

Diphtheria carrier—1

3

6

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	14	1	2	
Varicella		2		
Varioloid				
Smallpox		3		
Measles				
Whooping cough				
Influenza	15	10	4	4
Bubonic plague				
Encephalitis lethargica				
Meningitis cerebrospinal epidemic				
Pulmonary tuberculosis	184	177	69	68
Tuberculosis of all forms	5	3	5	3
Beriberi, infantile	35	13	34	12
Beriberi, adult	2	1	2	1

NON-RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria	19	7	3	
Varicella	7	2		
Varioloid				
Smallpox				
Measles	1			
Whooping cough				
Influenza	2			
Bubonic plague				
Encephalitis lethargica				
Meningitis cerebrospinal epidemic				
Pulmonary tuberculosis	30	20	7	4
Tuberculosis of all forms		1		1
Beriberi, infantile	2	4	2	4
Beriberi, adult	1		1	

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF SEPTEMBER, 1926**

Sera and vaccines	On hand September 1, 1926	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units)	470,000	1,000,000	1,470,000	250,000	1,220,000
Anti-dysenteric serum (ampoules)	317	250	567	394	173
Anti-tetanic serum (units)	485,000	72,000	557,000	232,000	325,000
Cholera serum (ampoules)					
Cholera vaccine (c.c.)	56,550	60,000	116,550	88,500	28,050
Dried vaccine virus (units)	100,700	100,000	200,700	103,700	97,000
Fresh vaccine virus (units)	160,600	200,000	360,600	173,000	187,600
Gonococcus vaccine (ampoules)		50	50	50	
Mixed typhoid-cholera vaccine (c.c.)	28,560	128,000	156,560	114,000	42,560
Normal horse serum (ampoules)		50	50	50	
Typhoid vaccine (c.c.)	6,500	18,000	24,500	14,400	10,100

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1926

449

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated					
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over	
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Total
No. 1.	Tondo.	413	393		20	407	13	1		408
	San Nicolas.	70	60		10	106	2		1	106
	Binondo.	348	181	154	13	114	6	11	3	128
	Santa Cruz.	183	173		10	163	5			168
	Quiso.	93	89		4	38	2			33
No. 2.	San Miguel.	64	60		4	11				11
	Sampaloc.	2,450	362	1,809	279	281	6	78	1	301
	Port Area.									
	Intramuros.	35	34		1	77	1			77
	Ermila.	117	113		4	134	5			134
No. 3.	Malate.	69	66		3	56	4			56
	Paco.	159	134	18	7	42	2	9	2	51
	Pandacan.	29	27		2	38	2			38
	Santa Ana.	50	49		1	43	1			43
Total.		4,080	1,741	1,981	358	1,505	49	99	3	1,739
										356

Vaccine virus:
 Received
 Used
 Remained

16,000
 9,700
 6,300

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1924¹

Health districts	Municipal districts	Number of injections made in—												Total number of injections					
		Adults						Children											
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1.	Tondo.	84	140	121	59	53	97	143	193	218									
	San Nicolas.	601	739	908	250	178	239	851	917	1,147									
	Binondo.	1	1,045	1,050	24	17	1,717	15	2,056	17	2,504	15	3,106						
	Santa Cruz.	1,211	863	475	545	432	103	1,756	1,295	1,256									
No. 2.	Quisno.	55	73	62	206	357	189	261	430	251									
	San Miguel.	128	118	66	9	13	12	137	131	78									
	Sampaloc.	1	1,641	1,729	1,388	1	751	4	751	2,139									
	Port Area.	1,432	1,104	949	34	35	29	1,465	1,139	978									
No. 3.	Intramuros.	163	73	23	56	3	198	219	3	271									
	Ermita.	7	800	550	40	609	49	418	25	263									
	Malate.	13	586	657	42	275	48	301	52	284									
	Pandacan.																		
	Santa Ana.																		
Total.		22	7,746	19	7,058	17	6,249	106	4,715	118	4,453	96	4,216	128	12,461	137	11,511	113	10,465

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine used for the third injections.

V, in persons never vaccinated before; R, revaccinations.

ANTIDYSENTERY VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF SEPTEMBER, 1926

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children			
			First injections	Second injections	First injections	Second injections	First	Second
No. 1.	Tondo.....	200	192	100	95	300	287
	San Nicolas.....		22		4		26
	Binondo.....	26	19	2	4	27	23
	Santa Cruz.....	55	68	24	31	79	99
No. 2.	Quiapo.....						
	San Miguel.....						
	Sampaloc.....						
	Port Area.....	57	48	25	13	82	61
No. 3.	Intramuros.....	23	20	8	8	31	28
	Eremita.....	6	6	2	2	8	7
	Malate.....	6		5		11	
	Paco.....	28	17	12	6	40	23
	Pandacan.....						
	Santa Ana.....						
Total.....		400	391	178	163	578	554

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	Vaccinations			
	Total vaccinations	Previously vaccinated		
		Never	Successfully	Unsuccessfully
Abrera.....	33,610	4,434	18,752	10,424
Agusan.....	8,481	1,838	4,100	2,543
Albay.....	25,003	8,270	4,062	12,671
Antique.....	87,831	14,295	51,734	21,802
Bataan.....	10,533	3,939	3,358	3,236
Batanes.....	3,194	213	697	2,284
Batangas.....	44,797	10,291	15,171	19,335
Bohol.....	36,948	8,034	12,817	16,097
Bukidnon.....	3,575	838	1,138	1,599
Bulacan.....	49,039	8,503	32,325	8,211
Cagayan.....	25,613	5,224	10,380	10,009
Camarines Norte.....	39,588	5,498	25,118	8,972
Camarines Sur.....	78,577	10,812	48,616	19,149
Capiz.....	82,740	21,749	46,303	14,688
Catanduanes.....	12,469	2,222	2,939	7,308
Cavite.....	23,407	4,703	11,177	7,527
Cebu.....	105,006	31,028	25,450	48,528
Cotabato.....	18,106	5,626	5,887	6,593
Davao.....	7,013	2,427	1,654	2,932
Ilocos Norte.....	28,532	6,280	9,849	12,403
Ilocos Sur.....	29,951	6,251	6,150	17,550
Iloilo.....	79,608	26,034	33,754	19,820
Isabela.....	96,544	22,649	62,341	11,554
Laguna.....	27,219	6,820	12,735	7,664
Lanao.....	4,739	1,282	2,121	1,336
La Union.....	23,277	4,454	1,312	17,511
Leyte.....	51,139	19,476	4,586	27,077
Marinduque.....	9,932	1,772	3,342	4,818
Masbate.....	9,624	2,907	2,141	4,576
Mindoro.....	58,148	13,107	34,700	10,341
Misamis.....	88,291	15,199	47,669	25,423
Mountain Province.....	32,553	8,594	15,478	8,481
Nueva Ecija.....	33,681	9,415	7,927	16,339
Nueva Vizcaya.....	12,288	1,136	7,673	3,579
Occidental Negros.....	34,574	18,612	6,438	9,524
Oriental Negros.....	30,471	7,838	10,785	11,848
Palawan.....	4,453	2,408	1,642	408
Pampanga.....	40,486	6,743	18,112	15,631
Pangasinan.....	70,436	17,377	16,948	36,111
Rizal.....	87,412	15,899	59,372	12,141
Romblon.....	5,406	1,707	1,451	2,248
Samar.....	129,546	25,233	73,899	30,414
Sorsogon.....	21,682	8,793	155	12,734
Sulu.....	9,838	4,866	2,392	2,580
Surigao.....	39,672	11,619	15,835	12,218
Tarlac.....	25,710	4,802	15,644	5,264
Tayabas.....	22,882	12,306	9,474	1,102
Zambales.....	10,208	2,172	2,752	5,284
Zamboanga.....	9,975	2,192	4,035	3,748
Total.....	1,823,812	437,887	812,290	573,635

¹ Incomplete; reports from other provinces not yet received.

Vaccinations performed by the vaccinating parties are included in the above table.

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926—Continued**

Provinces	Inspections of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	899	435	5,032	1,722	13,071	7,487	19,002	9,644
Agusan.....	290	130	615	250	1,619	1,471	2,521	1,851
Albay.....	3,617	1,040	3,596	918	4,464	2,185	11,677	4,173
Antique.....	3,125	702	8,397	4,470	20,530	27,358	32,052	32,630
Bataan.....	1,921	380	3,086	1,161	2,121	1,142	7,128	2,683
Batanes.....	188	112	498	253	1,284	605	1,970	970
Batangas.....	3,929	567	8,163	2,510	10,347	8,654	22,439	11,781
Bohol.....	4,281	1,296	5,521	2,603	10,320	8,749	20,122	12,648
Bukidnon.....	75	34	163	155	1,031	830	1,269	1,019
Bulacan.....	4,458	698	5,858	2,451	16,445	12,975	26,781	16,124
Cagayan.....	1,820	512	4,038	1,286	9,000	7,030	14,858	8,828
Camarines Norte.....	1,227	208	3,429	793	12,906	8,012	17,562	9,013
Camarines Sur.....	3,853	1,001	8,534	2,148	28,695	12,706	41,082	15,858
Capiz.....	3,990	887	8,450	2,176	33,361	15,635	45,801	18,698
Catanduanes.....	1,153	550	1,311	748	1,944	1,247	4,408	2,545
Cavite.....	3,985	408	3,181	785	9,924	4,992	17,090	6,185
Cebu.....	8,260	3,256	9,805	3,610	14,655	12,526	32,720	19,892
Cotabato.....	218	125	960	625	3,675	2,863	4,853	3,613
Davao.....	219	99	704	445	2,361	1,918	3,284	2,482
Ilocos Norte.....	2,924	660	5,465	1,694	7,004	7,308	15,693	9,682
Ilocos Sur.....	4,209	1,100	5,077	2,072	5,483	6,042	14,769	9,214
Iloilo.....	5,185	649	11,296	2,451	22,018	12,694	38,499	15,794
Isabela.....	1,774	462	7,527	2,252	22,810	17,271	32,111	19,985
Laguna.....	3,271	816	2,944	1,592	6,644	9,331	12,859	11,739
Laosao.....	107	15	214	62	738	493	1,059	570
La Union.....	2,203	663	2,849	2,262	2,987	4,801	8,039	7,726
Leyte.....	2,926	1,073	6,428	2,303	9,278	3,583	18,632	6,959
Marinduque.....	578	167	1,268	503	3,139	1,817	4,985	2,487
Masbate.....	706	228	1,167	672	2,463	2,006	4,336	2,906
Mindoro.....	1,321	174	5,401	827	22,684	9,828	29,406	10,829
Misamis.....	1,927	518	8,228	1,873	31,927	13,619	42,082	16,010
Mountain Province.....	886	494	3,200	1,375	6,579	5,796	10,765	7,665
Nueva Ecija.....	4,007	830	6,657	2,070	8,559	6,540	19,223	9,440
Nueva Vizcaya.....	457	44	1,448	593	5,195	5,427	7,100	6,064
Occidental Negros.....	5,863	1,204	7,542	2,008	7,587	2,997	20,992	6,209
Oriental Negros.....	2,663	962	4,300	1,939	8,604	4,948	15,567	7,849
Palawan.....	151	35	262	76	1,090	692	1,508	808
Pampanga.....	2,551	628	3,302	1,234	9,120	7,668	14,973	9,530
Pangasinan.....	8,048	2,292	11,794	4,174	16,197	15,627	36,039	22,098
Rizal.....	5,418	1,218	8,013	3,444	16,105	21,646	29,536	26,908
Romblon.....	364	89	916	245	1,963	718	3,243	1,062
Samar.....	4,022	1,334	15,227	4,120	44,496	17,294	63,745	22,748
Sorsogon.....	1,776	755	4,096	1,724	3,250	1,886	9,122	4,365
Sulu.....	430	102	1,736	496	3,411	1,431	5,577	2,029
Surigao.....	875	481	2,783	2,057	8,070	10,381	11,728	12,919
Tarlac.....	2,261	583	8,561	1,653	5,512	8,249	11,334	10,785
Tayabas.....	3,538	918	6,147	1,697	12,159	6,746	21,844	9,861
Zambales.....	1,050	252	1,556	924	2,549	3,596	5,155	4,772
Zamboanga.....	505	269	644	526	1,986	2,357	3,135	3,152
Total.....	119,504	31,758	222,389	78,057	497,360	351,177	839,253	460,992

¹ Incomplete; reports from other provinces not yet received.

Vaccinations performed by the vaccinating parties are included in the above table.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTICHOLOERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	33,818	2,601		36,419
Antique.....	13,928	3,418		17,346
Bataan.....	21,375	1,616		22,991
Batanes.....				
Batangas.....	176,211	11,731		187,942
Bohol.....	230	222		452
Bukidnon.....	123,249	13,307		136,556
Bulacan.....				
Cagayan.....				
Camarines Norte.....	576	268		844
Camarines Sur.....	37,995			37,995
Capiz.....	91,946			91,946
Catanduanes.....	4,686	1,716		6,402
Cavite.....	24,045			24,045
Cebu.....	3,519	87		3,606
Cotabato.....				
Davao.....	915	530		1,445
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	56,388	7,015		63,403
Isabela.....				
Laguna.....	103,512	20,583	1,164	125,259
Lanao.....				
La Union.....	4,042	1,414		5,456
Leyte.....	41,799	19,687		61,486
Marinduque.....	49,155	44,864	5,087	99,106
Masbate.....	3,305	1,136		4,441
Mindoro.....	25,741	7,962	1,992	35,695
Misamis.....				
Mountain Province.....				
Nueva Viscaya.....	33,942			33,942
Nueva Ecija.....				
Occidental Negros.....				
Oriental Negros.....	40	43		83
Palawan.....				
Pampanga.....	149,810	4,167		153,977
Pangasinan.....	244,519			244,519
Rizal.....	137,606			137,606
Romblon.....	11,150	5,853		17,003
Samar.....	2,155	937		3,092
Sorogon.....	2,960	34		2,994
Sulu.....	1	1		2
Surigao.....				
Tarlac.....	15,028	10,872		25,900
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	1,421,949	160,064	8,243	1,590,256

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTITYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....	536			536
Agusan.....	333	166	97	596
Albay.....				
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	354	272	10	636
Bohol.....				
Bukidnon.....	321	168	164	653
Bulacan.....				
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....	758	931		1,689
Catanduanes.....	626	223	10	859
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....	1,218	596	253	2,067
Laguna.....				
Lanao.....				
La Union.....	1,377	333	248	1,958
Leyte.....				
Marinduque.....	664	166		830
Masbate.....				
Mindoro.....				
Misamis.....	82	36		118
Mountain Province.....				
Nueva Ecija.....				
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....	1,861	622	132	2,615
Pampanga.....	466	204	42	702
Pangasinan.....				
Rizal.....				
Romblon.....				
Samar.....				
Sorsogon.....	549			549
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	9,135	3,717	956	13,808

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA)
VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....	4,480	4,558		9,038
Agusan.....	8,563	2,256		10,819
Albay.....	27	33		60
Antique.....	9,249	2,289		11,538
Bataan.....	240	128		368
Batanes.....	100	62		162
Batangas.....	630	120		750
Bohol.....	2,275	2,063		4,338
Bukidnon.....				
Bulacan.....	2,295	202		2,497
Cagayan.....	5,311	2,498		7,809
Camarines Norte.....	3,736	2,662		6,398
Camarines Sur.....	5,917	2,884		8,801
Capiz.....	14,649	5,670		20,219
Catanduanes.....				
Cavite.....	10,011	2,489		12,500
Cebu.....	38,583	4,865		43,448
Cotabato.....	709	166		875
Davao.....	1,657	797		2,454
Ilocos Norte.....	27,707	5,051	1,150	33,908
Ilocos Sur.....	1,940	1,557		3,497
Iloilo.....	17,910	4,345		22,255
Isabela.....	322	252		574
Laguna.....				
Lanao.....	4,979	1,025		6,004
La Union.....	1,747	991		2,738
Leyte.....	14,046	6,722		20,768
Marinduque.....	528	102		630
Masbate.....	1,834			1,834
Mindoro.....				
Misamis.....	439	257		696
Mountain Province.....	1,703	93		1,796
Nueva Ecija.....	856	409		1,265
Nueva Vizcaya.....	1,674	1,260		2,934
Occidental Negros.....	33,015	22,134		55,149
Oriental Negros.....	3,906	2,235		6,141
Palawan.....				
Pampanga.....	4,417	1,604		6,021
Pangasinan.....	119	76		195
Rizal.....	3,050	810	251	4,141
Romblon.....				
Samar.....	1,664	924		2,588
Sorsogon.....	1,220			1,220
Sulu.....				
Surigao.....	160	120		280
Tarlac.....	26,532	14,446		40,978
Tayabas.....	34,605	12,982		47,587
Zambales.....	6,720	6,091		12,811
Zamboanga.....	4,298	782		5,080
Total.....	303,723	118,040	1,401	423,164

¹ Incomplete; reports from other provinces not yet received.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE
MONTH OF SEPTEMBER, 1926**

(No case and no death reported during the month)

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF SEPTEMBER, 1926**

Province and town	Case	Death
Rizal:		
San Juan del Monte.....	1	
Total.....	1	

Remarks:

The case of cholera in the table is from the Province of Rizal brought to Manila for treatment.

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF SEPTEMBER, 1926**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampaloc	No. 3 Paco	
Orders pending, September 1, 1926:				
Minor.....	103	181	83	367
Sewer.....	26	53	1	80
Vacating.....	8	12		20
Filling.....	10	35	18	63
Total.....	147	281	102	530
Orders issued during the month:				
Minor.....	64	96	14	194
Sewer.....				
Vacating.....				
Filling.....				
Total.....	64	96	14	194
Orders completed during the month:				
Minor.....	13	17	9	39
Sewer.....		2		2
Vacating.....				
Filling.....				
Total.....	13	19	9	41
Orders cancelled during the month:				
Minor.....		3	1	4
Sewer.....				
Vacating.....				
Filling.....			1	1
Total.....		3	2	5
Orders pending, September 30, 1926:				
Minor.....	144	257	117	518
Sewer.....	26	51	1	78
Vacating.....	8	12		20
Filling.....	10	35	17	62
Total.....	188	355	135	678
Strong material plans approved:				
New buildings including additions and alterations.....	26	50	44	120
Permits for minor building constructions:				
Approved.....	17	47	32	96
Disapproved.....	5	4	2	11
New buildings completed.....	13	43	28	84
Permits for light and mixed material constructions:				
Approved.....	5	19	24	48
Disapproved.....	2	5	11	18
Prosecutions:				
Convictions.....		2		2
Dismissals.....	1	1		2
Amount of fines.....		P20		P20
Plumbing permits issued.....	32	86	52	170
Plumbing projects completed.....	39	45	51	135
Premises connected to the sanitary sewer to August 31, 1926.....	2,489	4,236	611	7,336
Connected during the month.....	1	9	10	20
Total.....	2,490	4,245	621	7,356

NOTE.—Meisic includes Tondo, San Nicolas, and Binondo. Sampaloc includes Santa Cruz, Quiapo, and San Miguel. Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
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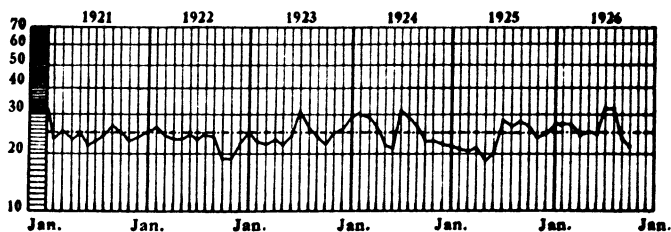
No. 10

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1926

PHILIPPINE HEALTH SERVICE

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No. 10

**PROGRESS IN PUBLIC HEALTH WORK IN
OCCIDENTAL NEGROS¹**

By Dr. J. P. BANTUG

*District Inspector and Executive Officer,
Philippine Health Service*

As a personal envoy of the Director of Health, I bring to you his most hearty greetings and the fervent desire for the success of this convention. He hopes that your deliberations here will be productive of much good and that they will be a source of inspiration to each and every one of you in your struggle to improve the health conditions of your respective communities. What I may have to say, therefore, in the course of these remarks, could not be but the reflections of his own thoughts, his own counsels, and his own policies.

The Province of Occidental Negros is justly hailed as one of the most progressive of the Philippine group, and, nowhere else, perhaps, within the confines of our great archipelago, are the natural resources so fully developed as they here as witnessed by your flourishing industries, your excellent road system, and the material prosperity manifested everywhere. And yet, with the size and resources of this province she has spent for public health for the year just closed the small amount of 14 per cent per capita, a sum much smaller than that devoted by other and less important provinces. However, insignificant this amount was, it was possible to uphold the standard of sanitation in the province and to ward off thus far, a possible cholera epidemic which is at the present time giving serious concern to the health authorities of the Central Office as well as those of the provinces affected.

¹ Excerpts from an address.

Accustomed as we have been to look at the negative side of our work and not given as a rule to boast of our own accomplishments, you will, however, permit me to disgress a little on this occasion by taking a stock our assets and liabilities and give them their money equivalents. With the exception of typhoid fever, which registered a very slight increase, there have been fewer deaths from the more common diseases in 1925 compared with the same causes in 1924. There has not been an epidemic of dysentery and not a single case of cholera or smallpox was registered. Malaria, tuberculosis, and beriberi appear to be practically stationary and yet the general death rate has been reduced from 25.73 per 1,000 population in 1924 to 16.67 (figure temporary) in 1925, showing a net gain of 9.06 per 1,000 population. The general infant mortality has likewise been reduced from 36.21 per 1,000 births to 32.07 in 1925 showing a difference of 4.14. In this latter achievement great credit must be accorded to the work of the Puericulture Centers throughout the province. They are important factors in lowering maternal mortality as well and the mothers in acquiring scientific principles from these Centers could not but reflect upon the general health of the population. Thus, the balance on the credit side for the year just ended was, in terms of population, a total of 5,616, equivalent to a money value of ₱5,616,000 which represent the contribution of the several health agencies to the prosperity of this region. You should not, however, remain satisfied with the part you have played in this great work. With increased funds, I see no reason why you could not accomplish more and undertake investigations on many of the remaining non-epidemic diseases in the province and start the construction of permanent sanitary improvements which will materially aid in increasing personal efficiency and the continued enjoyment of health.

The province should be congratulated for the construction of the new hospital to be endowed shortly with expert personnel and modern equipments which shall afford to all the inhabitants of this province all the latest advances in clinical medicine and operative surgery. You have so far spent for building Stage I, II, and III and the Nurses' Quarters the total amount of ₱87,621.63 and very little remains to be done to completely carry out the plans as originally proposed. The Director, however, has charged me to advise you that no further aid can be granted the province for the construction of additional buildings except for the operation of the hospital, unless further appropriation is made available by the Legislature. The Director hopes to

be here with you upon the opening of your hospital. He would like to remind you that your private practice is a special privilege which should be exercised outside of office hours and should in no way interfere with your official duties. In common with other officers in other provinces, some of you are dedicating more time to this work and, in this province especially, where he says conditions are peculiar, temptations are not wanting. Your sanitary ordinances are of the best but persuasion and tact are necessary to have their provisions complied with, without serious opposition. This is because sanitary officials are not endowed with police powers. You should, however, try, compatible with your dignity and the public trust, to secure the coöperation not only of the public but of the municipal officials as well. Team work in Government as well as in private enterprise is the key to success.

COÖPERATION AS THE BASIS OF SUCCESS IN PUBLIC HEALTH

By Dr. CONSTANTINO LIMJOCO
District Health Officer, Pangasinan

It was explained to the audience that the health officers are carrying out the teachings of preventive medicine, i. e., they see to it that the healthy persons do not become sick. The Health Service lays out rules and regulations to protect the community from any communicable disease, and to prevent and suppress any epidemic. In order to accomplish this undertaking, the help and coöperation of the municipal, provincial, and insular authorities and of the public as well as earnestly requested.

If the health officers were successful in their health undertaking in some municipalities, it was due principally to the help of the local authorities which favor the work on sanitation. On the other hand, if the health work has failed in other municipalities, this failure was partly due to the indifference of the local authorities.

It was also observed that in some municipalities and provinces, when strict economy is desired, the first reduction in the budget has always been against the health fund. This thing should not happen. As health is the basis of the development and progress of any nation, the expenses for the promotion of health should not be limited, because the benefit which is derived from this work returns to the public in the form of health, welfare, and happiness for the people. If the yearly health fund of ₱90,000 is doubled or tripled, we shall undoubtedly increase our population, as the mortality from malaria, pulmonary tuberculosis, acute bronchitis, and convulsions will naturally be reduced.

The vaccinations and inoculations have almost caused the disappearance of cholera and smallpox. If our drinking-water supply is also improved, typhoid fever, dysentery, and diarrhea will rarely appear in our death registers. Up to the present time, the 180 artesian-wells in the whole province only serve a total of 125,000 inhabitants, or one-fifth of the entire population; and some of these artesian-wells, because of the deficient drainage, constitute a real danger to public health, because the stagnant water makes a good breeding-place for mosquitoes.

Only few municipalities have sanitary markets and slaughter-houses, as preference is given to vendors of merchandise, to those who sell foodstuffs, for which the stalls are usually placed outside of the markets and are exposed to rain and sun.

Few municipalities have adopted the system of sanitary garbage disposal.

The ordinance, prohibiting stray animals from roaming about the streets, is not enforced. The presence of such animals in the public plazas in front of the municipal buildings is an open challenge to the authorities and the ordinance as well. This state of affairs should be ended.

Nearly all municipalities have approved ordinances relative to the construction of the Antipolo System of closets. However, up to December 31, 1924, only 6,578 toilets of this kind have been constructed. It is regrettable to state that some of these violators of ordinances are the local authorities who have approved such ordinances. How can this ordinance be enforced if the municipal building is the first one not to have any toilet of the Antipolo System?

Last year, a total of 2,620 yaws (*giri sankaili*) cases were given treatment. We expect to double this number this year, if the local authorities will coöperate in gathering these patients at certain places designated by the health officials.

The necessity of putting the cemeteries in a sanitary condition has also been pointed out.

Finally, the teachers should teach theoretical and practical hygiene and sanitation in schools. They should see to it that the school children practice in their own homes their knowledge of hygiene and sanitation.

MALARIA INVESTIGATIONS AND ANTI-MALARIA CAMPAIGNS

By W. D. TIEDEMAN

Malaria has little of the spectacular about it to make people fear and dread it as they do some of the great epidemic diseases, and for this reason it does not ordinarily command more than average attention from the practicing physician and health officer. Yet in its slow steady course, it does more to sap vitality and ultimately bring about premature death than does any other disease in the Islands. Of recent years, malaria has been drawing more and more attention. Many investigations have been carried on; and, since the building of the Panama Canal, an accomplishment which would have been impossible without malaria-control, anti-malarial campaigns have grown in number and effectiveness because they have been based on the good business principle that it is cheaper to prevent malaria than to cure it. It is with the hope, that this fact will be found to be true here, that the Health Service, as you know, has instituted a malaria-control campaign in which the International Health Board of the Rockefeller Foundation is assisting.

A review of the fundamental facts regarding the malaria cycle will easily introduce the subject of malaria investigations and will suggest the information necessary to be gathered in order to plan an anti-malaria campaign for the section under investigation. We know, to begin with, that malaria is spread from man to man through the agency of certain mosquitoes of the genus *Anopheles*, and only in that way. Thus, one of our first steps must be to determine the presence of malaria in man and the presence of *Anopheles* mosquitoes. Assuming the presence of both, we know that the *Anopheles* mosquito, when first hatched, is as innocent as a new-born babe; and, unless it succeeds in biting some person having the sexual forms of some type of malaria in his blood, this mosquito will remain perfectly harmless. This fact suggests the investigation of means in use and possible to be used in keeping mosquitoes from biting malaria patients and becoming infected. Now, assuming that the *Anopheles* has become infected, it must reach healthy people in

order to infect them. Here is another suggestion: to investigate the use and possibilities for the use of the means of protecting healthy persons from the bites of the *Anopheles*. Going still further, let us assume that the infected mosquito has succeeded in biting healthy persons. This condition suggests the investigation of the means of removing the malaria parasite from the blood of these persons to prevent further infection of the *Anopheles*; or, in other words, the means of sterilizing these carriers. This extreme carries us around the cycle; but we have one other thing to consider: the elimination of any one of the three factors that go to make up malaria; that is, man, the malaria parasite, and the *Anopheles* mosquito would do away with malaria. The first is absurd, of course, and is perhaps the only way we would not like to see malaria go out of existence. The elimination of the malaria parasite has already been suggested in speaking of the cure of infected persons. This point leaves the suggestion of the elimination of the *Anopheles* mosquito as our prospect and point of investigation.

In brief, we have a situation to deal with involving man, the *Anopheles* mosquito, and the malaria parasite; and anything that we may find out about one which may effect its relation with the other two will be of value. Populations and death-rates are valuable to begin with. Unfortunately, morbidity-rates are impossible to secure, since so few cases are treated by physicians. It is important to secure as accurate information as possible regarding the incidence of malaria. We may determine the presence of malaria and estimate its extent with varying degrees of accuracy by the history-index based on the statements of individuals as to whether or not they have had malaria; by the parasite-index based on the examination of blood-specimens; by the splenic-index based on spleen-enlargement as an indication of malaria; or by the mosquito-index based on the detection of the malaria parasite in *Anopheles* mosquitoes caught in and about the dwellings. There is no time to discuss the relative merits of these indices except to say that histories are notoriously unreliable, and that in careful work all are valuable. The blood-index is necessary to detect the kind of malaria which predominates. We must investigate the precautions that men take to prevent mosquitoes from biting them, including the use of mosquito-bars, smudges, screening, and the like. Then we have to determine the extent and kind of *Anopheles* breeding and the relations of breeding-places to the dwellings. It is a common practice to prepare a map showing the houses and these breed-

ing-places which is valuable in preparing estimates of the cost of controlling breeding as compared with other methods of control. It is also worth-while to note the treatment that people are taking for malaria and whether or not it is effective. Any associated diseases that may aggravate the malaria situation should be noted. In short, anything that may effect this complex relationship between man, the mosquito, and the malaria organism has a part in the malaria survey.

Malaria investigations are necessary evils which, while important as a means to an end, should not be confused with the end or given undue importance. They are important in establishing the fundamental principles whereby malaria-control work may be accomplished economically in any section; but, once these are established, investigations should be relegated to the background as much as possible. Surveys then should be limited to determining by approximate methods malaria-incidence and to doing only such additional work as is necessary to formulate a plan of attack and to estimate its cost. In other words, it is only in so far as malaria investigations are pushed to their ultimate conclusion, that is, to the undertaking of malaria-control, that they are valuable.

This consideration brings us to the second branch of our subject "Anti-malaria Campaigns." Contrary to popular belief, there is no cut-and-dried method of economical malaria-control; but a plan must be worked out for each set of conditions which will not interfere with the industry and local interests of the people and will accomplish results at a reasonable cost. There are three general lines to work along in an anti-malaria campaign: to attack the malaria parasite by attempting the sterilization of carriers, to prevent the mosquito from reaching man and to prevent the breeding of *Anopheles* mosquito.

The sterilization of carriers presents some difficulties. In the first place, there are almost as many different methods of treating malaria with complete cure in mind as there are authorities on malaria. These treatments vary in length from ten days to four months, with many variations in quantity and form of drug as well as in method of administration. We expect to undertake some work that may throw some light on this subject; however, it is still a problem. Any treatment to be used in this way should be simple enough so that the administration of treatment to each individual can be checked, and so that the average class of people will not object to its administration.

The work of controlling malaria by protecting man from the bites of mosquitoes should be very effective, but has some drawbacks. It is well known that the *Anopheles* mosquito will not bite a person out of doors in open sunlight, that it very seldom bites people indoors during the daytime,—often leaving the house to return at night—and that it is probably most active just after sunset and before sunrise. If we can persuade people to sleep under mosquito-bars or “mosquiteros” of good material, which are kept mended and well tucked in under the sleeping-mat, we can check malaria to a great extent. This method leaves exposed those who work at night or stay up late at night and the considerable number who travel the roads at night. After one automobile trip from Manila to Pampanga after dark, I collected 91 engorged female *Anopheles* mosquitoes on my windshield which had been run into and caught in their own, or rather some one else’s, blood. “Mosquiteros” are not extensively used. The surveys of four barrios in sections where malaria is prevalent show that only from 11 to 19 per cent of the people avail themselves of the protection of mosquito-bars. Moreover, of the “mosquiteros” that are in use, many are of poor materials, many badly torn, and many not properly tucked in under the sleeping-mat. One observing young man on an *hacienda* in Pampanga told me that the mosquito goes like this—moving his fingers back and forth here and there—looking for a place to get in. It is true and, if the opening is there, rest assured that he will find it!

We have still to discuss the third and most important method, which is mosquito-control. When the cost is reasonable, it is probably our most effective and satisfactory means of malaria-control. A few words about mosquitoes may be worth-while in opening. When we say “mosquito,” we refer to any one of 500 or 600 or more known species, almost as varied in their habits and capabilities as are the birds of the air or the fish of the sea. When we speak of the *Anopheles*, we restrict ourselves to any one of perhaps 120 known species and, for any one locality in the Philippines, to not more than 10 species. When we learn to *know* the three or four best carriers of these species, we have taken the first step preparatory to economical mosquito-control. Every one of us should be able to distinguish the anopheline larvæ and mosquitoes and be familiar with their habits and breeding-places. Contrary to the wide spread belief, *Anopheles* mosquitoes do not breed in artificial containers or in grossly pol-

luted water, but along the edges of running streams, in ditches, and in uncontaminated collections of water. The success of any campaign to check *Anopheles* breeding cheaply will depend largely on taking advantage of our knowledge of their breeding habits. We know that the *Anopheles* do not fly very far from their breeding-places—in most experiments, less than one mile—so we may limit our effort to breeding areas within flying range of dwellings. It is obviously not applicable to isolated dwellings, but is the method for small communities. The most common method of attacking of mosquito is through its larvæ. The best methods of control are those which make the greatest use of natural conditions. For instance, during heavy rains breeding along ditches and streams practically ceases and the use of larvacides during these periods would be a needless waste. At the same time, breeding in pools is accelerated. Most *Anopheles* breed in places where grass and weeds are growing in water, although there are exceptions. In such places, fish which are natural enemies of the larvæ cannot reach them, and oil is not effective as a larvacide. If either are to be made use of, the grass and other growths must be removed. Doctor Barber, working in the United States, has recently developed the use of Paris green in the powdered form as an *Anopheles* larvacide in places of this kind without the removal of the grass, and it has proved very cheap and effective. We have tried it on a small scale with success, but intend to try it more extensively. It is also within the realm of possibility to catch mosquitoes in traps or otherwise in the houses and secure some degree of control. In Panama, the daily collection of mosquitoes in box-cars where workmen were living was fairly effective. It is well to keep in mind that it is not expected in mosquito-control work to exterminate mosquitoes, but only to decrease their number to such an extent that the chances of their carrying the infection will be slight. Malaria, likewise, will not be exterminated, but will be reduced proportionally. Ross points out how slim the chances are for an *Anopheles* mosquito to bite a malaria-carrier, live a week while the organism is developing, and then bite a healthy person.

In conclusion, the question of controlling malaria is largely one of costs and the problem is to develop a plan for each set of conditions that will bring the cost within the reach of the people. Even at the best, the prospect is not one of eliminating malaria, but of reducing it, say fifty per cent or more, with the promise of further diminishing it as the work progresses. Again, ma-

malaria control is not something to be taken up like a new toy and then dropped, but must be continued without cessation, although it should become increasingly simple. The results are undoubtedly worth-while and it should be our aim to make people realize that, by concentrated effort, they can prevent malaria at a lower cost than it will take them to contract and then to cure it. However, without waiting for the time when he can wage an organized war against malaria, every health officer can make his influence felt in controlling malaria by advocating and advising on the proper use of "mosquiteros," by urging the cure rather than the treatment of all malaria cases, and by knowing his mosquitoes and seeing to it that all public improvements in his district tend to decrease rather than to increase the areas in which *Anopheles* mosquitoes are breeding.

MODERN PUBLIC HEALTH ADMINISTRATION

By Sulpicio Chiyuto

Senior Medical Inspector, P. H. S. Former District Health Officer

35th Health District

Present Chief, Culion Leper Colony

The progress attained by the associate sciences of hygiene and public sanitation has opened new routes toward a more scientific approach to the field of preventive medicine.

The ancient theories and rules of action, to combat only contagious diseases or the high incidence of morbidity and mortality in any given community, is now superseded by more effective methods of applying the principle of preventive medicine on an extensive scale, thanks to the progress accomplished by the science of vital statistics, sanitary bacteriology, general sanitation, child hygiene and public health nursing, the supervision of foods and water supplies, and the enforcement of measures against preventable diseases.

The present scope of the modern public health administration can be outlined as follows:

1. General Administration.
2. Vital Statistics.
3. General Sanitation.
4. Communicable and Preventable Diseases.
5. Child Hygiene and Public Health Nursing.
6. Supervision of Food and Water Supply.
7. Other Functions: Publicity, Medical Relief, Research Work, etc.

GENERAL ADMINISTRATION

Authorities on public health advocate the necessity of clustering the different organizations of health workers into a National Department of Health, in order that the proper coördination of work can be carried out more extensively and the activities conducted will not be wasted in the duplication of efforts when no proper correlation is effected.

There is a general tendency among the different world organizations, especially in the United States, to put the health administration under a public health board, which is not to be emasculated by its limitation to merely legislative and advisory

functions, but is to have executive powers for the proper execution of health laws and regulations through different divisions. Out of the forty-eight territorial divisions of the United States, forty-four are organized under the basis of advisory boards and only four follow the method of unipersonal administration, headed by a Director of Public Health, Executive Officer, or Commissioner of Health. The territories of the United States are organized under the system of an Advisory Board of Health.

The half-time officers of the previous years are now substituted by full-time functionaries who have acquired special experience and training in technical and administrative matters. Recently, various important universities of America have opened special courses in all branches of public-health activities, but the technical qualifications should be properly supplemented by administrative tact, which requires the ability to judge circumstances, to formulate plans, and to exert sufficient energy in carrying out the plan successfully. Under this policy a considerable amount of systematic work can be accomplished in the proper control and supervision of such things, as dairy produce, food, general sanitation, schools and school children, social service, preventive medicine, water-supply, the proper disposal of waste, the proper enforcement of sanitary laws and regulations, the dissemination of health information. If these full-time officers are duly aided by an intelligent community, splendid results can be secured for the benefit of the inhabitants, besides serving to reflect the rapid progress of the country. The expert health officer, with an expert staff, is the chief figure in public health administration today, because he is intimately and precisely acquainted with the principles and conditions which it is necessary to go by under all circumstances.

The necessity of keeping public health work free from harmful political influence or interference is well admitted because it is now realized that the cost of political muddling in public-health work is dearly paid, not merely with the money of the taxpayers, but even with their lives.

VITAL STATISTICS

The present health administration considers vital statistics as one of its paramount aids, because they not only represent the numerical data of life, morbidity, and mortality, but serve as a gauge whereby to call the attention of the health officers where efforts should be concentrated so as to produce positive benefit to the community.

The definition given by an authority on vital statistics is that they are "vital bookkeeping," that is, they are the collection of data covering sickness, deaths, births, marriages, and divorces. These data are of twofold value: as a permanent legal evidence of the events to which they certify, and as a basis of vital statistics. For securing this value, it is necessary that the data be most accurate, so as to avoiding as much as possible those errors which are constantly observed in individual data for the life accounts.

The principal sources of statistical errors are the mistakes resulting from counting and copying, from arithmetical processes, from misprints and the like, all of which pertain to the clerical work of the statistics. The errors caused by inaccuracies are inherent to a great extent in even in the most careful statistical work, such as incomplete original data, lack of correction or standard or the meagerness of data; and the fallacies which are due to an illogical assumption or process resulting not merely in estimable error, but in an essentially false conclusion which may consist in the use of absolute numbers instead of relative numbers and rates and the use of irrational ratios and comparisons.

GENERAL SANITATION

The present development of sanitary science has demonstrated the false theory that filth is dangerous, not merely as a predisposing condition or as the possible vehicle of disease, but as the very sources of malady. Now sanitary science has clearly demonstrated that there are various kinds of filth, some of which are deadly and others are practically harmless. Between the two extremes, there are various degrees; hence, certain things are especially dangerous. Above all, we have the disease-spreading privy vault; in a lesser degree, we can point out the neglected manure-pile breeding the disease-bearing fly, the stagnant water breeding the mosquito transmitter of malaria or yellow fever. There are also certain habits that are dangerous, and personal uncleanness in a broad sense stands convicted by scientific evidence as being the greatest simple factor for the spread of many of the common communicable diseases. Thus, dirty surroundings and dirty habits ordinarily go together; and, generally speaking, dirty habits are dangerous to health and are a fit subject of health administration.

The correction and control of nuisances that are actually and distinctly detrimental to health should be given preferential attention by the health authorities rather than by those persons who have only an indirect connection with the matter or are merely the agents of a mistaken popular clamor, as those nuisances which only concern comfort and delicacy should be referred as far as possible to the municipal government, which may be logically made directly responsible for their abatement.

The scope of general sanitation should not be only devoted to sanitary nuisances, but also to houses and industrial hygiene. The general sanitation program at the present time requires the strong aid of the sanitary engineer as the adviser in the proper correction and diminution of technical defects that directly reflect on public health, as the proper disposal of waste and the removal of other nuisances, the conduct of investigations and the distribution of such information as the health officer may find necessary for the maintenance and improvement of the cleanliness that is directly related to health.

The supervision of housing conditions is one of the primarily efficient powers that play an important rôle in safeguarding health, and such supervision should receive as much attention as is consistent with other duties. There is, perhaps, no other field in which preventive measures have to depend so much as upon housing sanitation.

It is beyond doubt that the hygiene of occupation is one of the most complicated problems which sanitarians have to deal with, because the various degrees of the range of industrial activity (from the simplest home industry up to the most complex industrial organization) require special and intelligent study by the health officer of the different individual natures of each local industry and the country possessing an industrial population. There are two different factors that should be remembered in industrial hygiene, whereof one pertains exclusively to personal hygiene and the other to public health, which should be controlled by proper legislation.

COMMUNICABLE DISEASES

As a corollary of the figures presented in the "balance of life bookkeeping," the prevention and control not only of communicable diseases, but also of the maladies that are to a considerable degree preventable are objectives to which attention should be directed. Dysentery and malaria may be mentioned as examples

of the communicable diseases that cause a very high incidence of deaths in our population; while beriberi, heart diseases, and kidney affections will serve as illustrations of diseases that are in some degree preventable.

Formerly, a distinction was made between the terms "contagious" and "infectious," but modern theory has shown the fallacy of such an attempt and the two above-mentioned words have been grouped under the nomenclature device of "communicable or transmissible."

It is not necessary to organize a powerful and expensive central organization which is capable of sending out assistance whenever occasion arises; but a well instructed and duly prepared full-time local health officer, aided by an efficient clerical force and a corps of skilled field workers, is more than sufficient when the need arises to eliminate or reduce unnecessary cases of sickness and premature death or to suppress and control communicable diseases.

The principal factor that may aid toward the control of communicable diseases is the proper and prompt report of all communicable diseases duly diagnosed or only suspected cases. The coöperation of the practicing physician of the locality should be sought in order to minimize as much as possible the overlooked cases that, for epidemiological purposes, change greatly the reading of the statistical results. The duty of reporting cases or suspicious cases should be extended also, under certain circumstances, to the parents or household heads. However, unless duly supported by proper legislation with the provision of a heavy penalty, such a measure will not give the proper result.

The cases reported should be investigated at once because the early enforcement of measures saves the incidence of cases or the outbreak of an epidemic.

The public-health officers should be very familiar with the infectious diseases and the principal means by which they are transmitted from person to person or by other modes, and should not accept theories relative to the transmission of diseases unless duly supported by scientific facts. In other words, they should be well versed in the study of the epidemiology applied to the conditions of the locality, by looking through the tables and diagrams presented by the vital statistics of the normal occurrence and distribution of communicable and common diseases in different seasonal periods. If the epidemiological investigation is consciously considered and the health officer, with his

administrative ability, is able to draw the attention of the community to the sources of the contagion and the predisposing causes of common diseases for the necessary correction, there is no doubt that future outbreaks will be prevented and the high incidence of common diseases will be reduced.

The study and investigation of epidemiology is not complete unless duly supported by its principal auxiliary science, sanitary bacteriology, with a good laboratory equipment and sufficient materials wherewith to perform adequate laboratory investigations, to distribute the necessary prophylactic treatment thru sera and vaccines, and to determine the time when a case of communicable disease is to be released.

CHILD HYGIENE

The physical handicap of children of pre-school age lingers necessarily until adult life is reached. Therefore, a progressive department of health can not overlook the necessity for working directly toward the conservation of child-life. It is well admitted that too many lives are unnecessarily lost in early infancy, especially because of the improper instruction and preparation of the prospective mothers. It is considered at the present time that the most important activity on which the modern health administration should focus its attention is the supervision and control of the welfare of the infant from the day of birth to school age.

When treating children in the pre-school age, the attention should not only be directed toward the infant, but also to the conditions that may be indicative of the environmental condition of the little future citizens. The principal questions that come to the attention when treating children in the pre-school age is that the mortality before the first year of age is very high, mainly because of the undesirable service rendered by the ignorant and ill-trained midwives and the generally improper care of infants that, instead of benefitting the community, increases highly the infant mortality rate. The first step to take in child-hygiene, therefore, should be the elimination of incompetent midwives by their substitution with properly trained ones from regular, standard schools of midwifery and the intensive educational campaign conducted by public health nurses. The work in child-hygiene will be fruitless if the public-health nursing service work is not carried out systematically or properly controlled and supervised by a competent department. There are different suggestions regarding the organization of infant wel-

fare stations, and the plans are changed according to the conditions of each locality and the result pointed by the infant morbidity and mortality statistics.

No other place can reflect directly the physical development and welfare of the child as does the school-building. The combination of compulsory education with an unbalanced curriculum, impure water, vitiated air, or improper sanitation is nothing short of a crime by the state against the state, because the school has been established for the mental training as well as for the proper physical development of the child, in whom is wrapped up the future of a nation of useful and capable citizens. It is economic wastefulness to educate and train children mentally with open disregard of proper sanitation and hygiene by permitting them to die of preventable diseases before they reach the period of maturity and productivity. Therefore, the school children should be brought up with regard to the needs of the future and should be early ushered into the demands of proper adult life.

This program could not be carried if the children of school age are not properly supervised by a competent physician who is sufficiently impressed with the importance of the medical inspection and sanitation of the schools. The medical inspection of schools has a twofold objects: the general physical welfare of each child and the detection and exclusion of communicable diseases from the school. Besides these two principal objects, there goes also the detection of physical defects that may affect directly the individual student, so that proper corrective measures may be promptly resorted to and a healthy student may be sent out by the school. The work in school hygiene requires the assistance of well-trained nurses who may follow the cases found in the school or school clinic to the home, for the proper correction or treatment of the defects or maladies. It is advisable, when it is not possible to have a sufficient number of well-trained public-health nurses, to organize in each school a Junior Department of Health consisting of a junior health officer and the necessary junior health inspector (one for each room); and each classroom will endeavor to secure the highest number of health credits according to the following plan:

1. Highest percentage of children of normal weight.
2. Highest percentage of children whose physical defects have been corrected since the last medical inspection.
3. Highest personal-hygiene record.
4. Cleanliness of classroom.
5. Sanitary facilities.

The interest which the child will come to take in the work will be remarkable and will result in the correction of many physical defects, the attainment of a higher nutritional standard, better personal cleanliness, and a healthful school.

SUPERVISION OF THE FOOD AND WATER SUPPLY

Since the beginnings of the health administration, the protection of the food and water supply was considered as one of its principal functions; and at present time, because of the progress of the sanitary laboratory, the protective measures have been put under a more scientific basis, so that the possibility of any contamination of foods with infectious matter or poisonous substances is prevented. Preferential attention, however, should be given to foods that are eaten raw or partly cooked; and among these foods, the principal one is the milk, because of the ease with which it may be contaminated and because it is principal food in early infancy.

The important role played by water in the spread of gastrointestinal diseases and epidemics is well known. Its proper protection and control by frequent water-analysis, so as to detect as soon as possible any pollution that may be the origin of the outbreak of any epidemic, or the provision of a potable water supply is one of the paramount functions of the modern health administration.

PUBLICITY

Sanitary education by means of publicity literature, lectures, bulletins, pamphlets, leaflets, exhibits, and the like can be said to play an important part in the sanitary legislation, because through such media we not only advertise the laws, rules, and regulations of the health service, but we also draw the attention of the community to the routine principles of hygiene and advise the people as well on the possible dangers that menace the public health.

Health publicity, if properly carried on, will not only interest the community in general, but also draw the attention of the financial authorities of the state or country to the present economic basis of the health program, so as to secure an efficiently flexible allotment of necessary appropriations for the proper operation of the health agencies.

MEDICAL RELIEF

Even tho the medical relief service is rendering only a relatively small benefit to the community, yet it is now well considered that the medical relief is an important aid in the policy

of attraction for arousing the confidence of the community in health programs, because their immediate results can be seen and the health center serves to diffuse sanitary information on preventive measures as well to obtain the necessary information on the predominance of common preventable diseases.

RESEARCH WORK

Because of the extensive field of the problems of public hygiene, there is still a vast area not only in morbidity or mortality, but also in general sanitation that is not conclusively or sufficiently investigated. Research work is one of the most important functions of the present health administration, because the conclusion that may be drawn from the results of the scientific investigations are conclusive and they may improve or change the application of the preventive measures that are still insufficiently known or tested.

THE SANITARY LABORATORY

The Sanitary Laboratory is the basement of the principal structure that embraces the different branches of the health program. The laboratory should be managed by a competent man, not only capable to face the routine work of a sanitary bacteriologist, but also duly prepared for serum diagnosis, the chemical examination of milk and other foods and water, and duly provided with a sufficient amount of anti-toxins and other sera for distribution.

As branches of this central laboratory, there should be organized local laboratories for the routine work that requires immediate action for the proper protection of the public health.

THE BUDGET

The frame which supports any health organization is the appropriation that the state or county may assign for the maintenance and operation of the health department. A health officer, even if he is duly prepared and sufficiently trained in the technicalities of sanitary science, he will undoubtedly fail in carrying out even the most splendid health program, if he neglects the proper consideration that should be given to the health budget. Health work is one of the most expensive activities that the public administration has to maintain. It requires a considerable outlay for the proper execution of work without the expectation of an immediate positive return to the public

treasury; and it is only after the lapse of many years of constant investment and increasing expenses are the positive benefits felt. It is well proved that communities which have invested large amounts for the conduct of splendid health programs have increased the public income because of the healthy condition of the inhabitants that are capable of shouldering the obligations that the nation may require them. Therefore, the health officer should know how to secure the attention of the financial authorities so that a sufficient allotment may be given for the successful completion of the health program.

The Department of Public Instruction embraces two extensive bureaus—those of Health and Education. Both of them can be said to be still in the period of development, especially the Health Service, in which even the whole-hearted attention of a single man is not sufficient to give the proper impulse to the work in such a way that within a short period the standard of modern organization can be reached. The separation of these two bureaus and the formation of an independent Department of Public Health with a full-time Secretary of Health is urgently needed.

The present coördination of the different health agencies has solved the time-honored problem of antagonism and divergence; but the former duplication of work still continues in many instances, largely because of the zealous efforts displayed by each organization in its present independent condition. In creating the Department of Public Health and clustering into it all the health agencies, undoubtedly more effective work can be done, to the increased weal and happiness of the people.

The full-time civil service classified officers, the part-time health officers who are not classified, and the presidents of sanitary divisions are poorly paid in comparison with the same workers in the other world organizations; and because of this condition, the public-health service is not considered so engaging as are the other branches of medicine. Eventually, the health service has come to be looked down upon, not as an attractive field for the advancement of sanitary science, but as a mere emergency position or a step-ladder for the future private practice of medicine or other life enterprise. The only way to encourage the health officers to exert all their efforts in sanitary activities is to improve the salary standard and to grant certain privileges or emoluments, as a proportional increase in salary for every stated period of years of service.

The *per capita* basis of the health appropriation set down by the insular, provincial, and municipal budget is too small in proportion to our present needs; and probably it is the smallest *per capita* allotment in the world.

The actual general sanitary legislation of the Philippines, which is included in Act 2711 as approved in 1917, is very inadequate to the present needs of the modern public-health administration and it is one of the most important factors that hinder the rapid progress of public health. As evidence thereof, here are sections 938, 980, and 1006 of the above-mentioned Act empowering and assigning as duties of the Philippine Health Service, the district health officer, and the president of the sanitary division, respectively, among other things, the investigation and detection of persons suffering from communicable diseases and their proper isolation until they cease to be sources of infection; the performance of systematic inoculation by the use of virus, sera, or prophylactics; the investigation of the causes, pathology, and means of preventing diseases, especially those of an epidemic or a communicable character, the sources of mortality, and the removal of the cause and prevention of the spread of such or any special diseases in the Philippine Islands and the effects of localities, employments, conditions, habits, foods, beverages, and medicines on the health of the people. Thereby, apparently, the health officer is sufficiently protected by laws to institute all proceedings which are necessary to stop all that may be detrimental to the public health. However, an opinion of the Attorney-General on April 7, 1922, says that none of the above-mentioned officers or the Director of Health has the power to issue sanitary orders based upon those sections mentioned above, nor can disobedience thereto be penalized, such powers being a legislative function properly belonging to legislative bodies.

Section 2242 of the Administrative Code of 1917 says, among other things, that it is the duty of the municipal council to enact ordinances to prohibit the throwing or depositing of fifth, garbage, or other offensive matter in any street, park or public square, and to provide for their suitable collection and disposal; to regulate the keeping and use of animals in so far as they affect the public health and the health of domestic animals; to require any land or building, which is in an insanitary condition, to be cleansed at the expense of the owners or tenants; to construct and keep in repair public drains, sewers, and cesspools; and to regulate the construction and use of private water-closets,

privies, sewers, drains, and cesspools; to establish or authorize the establishment of slaughterhouses and markets and to inspect and regulate their use; and to provide for and regulate the inspection of meats, fruits, poultry, milk, fish, vegetables, and other articles of food. These duties are of a mandatory character and are, according to McQuillin (*Municipal Ordinances*, page 124), not meant to be discretionary, but compulsory. However, nothing is provided in the law that the said ordinance will be drafted in accordance with the sanitary requirement, or, in other words, this condition means that the municipal council may enact a sanitary ordinance in the form it may decide upon, as the necessity and rationality of the measure, according to section 2236 of the Administrative Code, are determinable by the municipality. There is no provision of law that may oblige the municipal authorities to enact sanitary ordinances according to the form and requirements that the Health Service may deem necessary for public-health protection, except section 946 in which the Director of Health, with the approval of the Department Secretary, may suspend, modify, or annul any ordinance or regulation passed by a board, but does not change the provision of section 2236 that authorizes the municipal council to be the sole judge respecting the necessity and rationality of the ordinance, as it is established and admitted by authorities in municipal corporations. The only procedure to follow in this matter lies in administrative action, but administrative appeals are subject in the majority of cases to political influence, and therefore are ordinarily fruitless. Therefore, the mandatory character of section 2242 mentioned above is pure fiction and sarcasm. Under this condition, a health officer, even when animated with his most elevated spirit to work for the public health, has to fail because of improper and defective legislation; and unless proper sanitary legislation is passed, capable to give the necessary support to health officers' activities, little or no efficiency can be expected.

Moreover, there is the lack of uniformity in sanitary measures among the 48 provinces of the Philippines and even in the majority of the municipalities of the same province in which sanitary ordinances are not favorably considered or passed by the municipal councils, because of the indifference and lack of knowledge about the aims, powers, and means that on many occasions are necessary to take for public-health protection which are considered in the majority of cases as arbitrary and menacing to personal freedom.

There is at the present time too much political interference in health affairs; and, as has been mentioned before, if there is any government activity that requires for the performance of its work complete political independence, probably the health service is one which needs such emancipation urgently. In this connection, it is worthy to note the advertisement published in the City of Savannah, Georgia, when it makes this ringing declaration: "The City of Savannah guarantees the position of health officers, free from political interference."

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IN MEMORIAM

With the death of Rev. Fr. Felipe Millan, S. J., Superior of the Mission and Chaplain of the Culion Leper Colony, there passed a man whose ideal of service was to help his fellow man. Had he desired, he would have attained a high post in the Society of Jesus, but imbued with self-abnegation and inspired with the teachings of his Master, he purposely requested to be transferred from the religious province of Castille to that of Aragon, to which the Philippines belong, so that he may serve the poor lepers in Culion. During his service of nearly a decade he has been a power for good in the Colony. Nor did he confine his ministrations to the spiritual needs of the people under his care. He established dormitories, thus giving shelter to the homeless, comfort to the weary, and protection to the young people. He conducted regular and vocational courses and provided entertainments for all thru good music and excellent singing rendered by the lepers themselves. Thru his death the Colony was deprived of a zealous worker and a devoted servant of God. May he find his reward in the mansion of the blessed!

MISCELLANEOUS

COMMITTEE ON TRACHOMA CONTROL

The members of the Committee on Trachoma Control composed of Dr. L. Lopez-Rizal, chairman, Dr. T. Elicaño, Dr. H. Velarde, and Miss Mary Polley, members, held a meeting October 5.

The Committee at their meeting has decided to carry out a general campaign against trachoma particularly among school children. Doctor Velarde has been requested to prepare a leaflet on trachoma for distribution among school teachers of public schools in Manila and the provinces. The leaflets shall be simple, concise, and illustrated and shall comprise the symptomatology, diagnosis, and treatment, especially preventive treatment of the disease. The teachers shall be instructed to refer suspected cases of trachoma to the local health officers, or the puericulture center, Red Cross and Bureau of Education nurses, for treatment.

PERSONNEL

District Inspector Manuel Llorca retired from the Service on October 1, 1926. On the occasion of his retirement, he was tendered by the officers of the Philippine Health Service with a farewell banquet at the La Palma de Mallorca Hotel. At the banquet, Doctor Joven, Dr. J. Fajardo, Director of Health, and Doctor Llorca, the guest of honor, delivered short speeches. The Director of Health praised in high terms the efficiency demonstrated by Doctor Llorca while in the employ of the Philippine Health Service. Dr. Llorca expressed his regret in leaving the Service and thanked the Director of Health, the officers present, and the Philippine Health Service in General, for the courtesies shown to him.

Dr. Francisco Gomez of the Philippine Health Service and a pensionado of the Rockefeller Foundation arrived on the steamship *President Lincoln* on October 17. He attended the Harvard School of Public Health and obtained the degree of C. P. H. in Industrial Hygiene. He is now assigned as assistant to the Chief, Section of Industrial Hygiene.

District Inspector Florentino Ampil inspected the municipalities of Cabanatuan, Bongabon, Laur, Rizal, San Antonio, and Aliaga, of the Province of Nueva Ecija, on October 11 to 23. He found that the sanitary conditions in these places are satisfactory.

ALBAY

One hundred fifty-nine (159) neosalvarsan injections were given to yaws patients at Virac; 11,278 children were vaccinated in fifteen towns of the province, by the Vaccinating Party No. 6. These places were visited by the Bishop of Nueva Caceres.

BATANGAS

Three-hundred seventy-eight persons were injected with pure cholera, 35 persons with pure typhoid and 400 persons with mixed vaccines and 32 schools and 3,427 school children were inspected and physically examined.

BOHOL

Dr. Adolfo Aldaba, district health officer, has been granted leave of absence. Dr. Hipolito Balon has been designated acting district health officer.

LANAO

The malaria campaign along the coast has been carried on, consisting of the enforcement of general sanitation, establishment of the anti-malarial zone, systematic distribution of quinine both for prophylaxis and treatment purposes, education regarding rudimentary knowledge of the disease and its prevention, use of mosquito bars, etc.

The new dispensary building at Momungan, as per standard plan bulletin No. 29 of the Service, was inaugurated on August 22.

Dr. Ramon Santos was appointed resident physician of the Lanao Public Hospital, relieving Doctor Yap who was transferred to Dapitan. Nurse Olimpia Lumen was appointed chief nurse of the Lanao Public Hospital.

OCCIDENTAL NEGROS

The district health officer has conducted a campaign against venereal diseases in the municipality of Victoria and found out that 100 per cent of the "bailarinas" in the dancing hall were suffering from gonorrhea.

RIZAL

Dr. Felino Simpao, former chief of the Section of License, was assigned as district health officer on October 1, relieving Dr. Florentino Ampil who has been designated as district inspector, with assignment at the Central Office.

ZAMBOANGA

Hookworm campaign.—A campaign against hookworm and other intestinal parasites in the barrio of Ilaya, municipality of Dapitan, has been carried out under the direction of Dr. Jesus Nolasco, resident physician of the Rizal Memorial Hospital.

LEPER COLLECTION

The following is the report of Dr. Teofilo Corpus, physician in charge of the Leper collection trip:

Lepers collected from Northern Luzon:

Aparri	15
Currimao	19
Pandan	27
San Fernando	4
Sual	16
<hr/>	
Total	81
<hr/>	

Lepers collected from Southern Islands including those from San Lazaro Hospital:

San Lazaro	45
Pasacao	24
Masbate	3
Sorsogon	4
Catbalogan	12
Tacloban	17
Maasin	3
Cebu	52
Larena	3
Dumaguete	4
Iloilo	20
Bacolod	2
Total	189
Escaped	2
Died	1
Total brought from the Northern part of Luzon	81
Total brought to Culion	267

Sixty-four negative lepers from the Culion Leper Colony were transferred to San Lazaro Hospital on the steamship *Bustamante* on November 8, 1926.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of October, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹

BY NATIONALITIES

Nationality	Population
Americans	3,134
Filipinos	290,009
Spaniards	1,955
Other Europeans	1,126
Chinese	17,856
All others	2,186
Total	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I, MERIC:	
1. Tondo	79,705
2. San Nicolas	28,792
3. Binondo	17,398
Total	125,895
No. II, SAMPALOC:	
4. Santa Cruz	51,565
5. Quiapo	15,658
6. San Miguel	4,377
7. Sampaloc	39,186
Total	110,786
No. III, PACO:	
8. Port Area	4,754
9. Intramuros	14,437
10. Ermita	15,931
11. Malate	16,259
12. Paco	15,830
13. Pandacan	5,785
14. Santa Ana	6,589
Total	79,585
Grand total	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, OCTOBER, 1926**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10	755.98	26.6	32.3	2, 9	22.7	2	29.6	29.7
11-20	58.12	26.6	33.1	17	23.2	14, 17	29.7	29.8
21-31	59.20	26.0	32.0	27	21.2	27	29.6	29.8

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10	86.8	93.5	5	82.9	8
11-20	87.1	89.9	14	83.0	18
21-31	84.6	89.8	30	80.8	27, 28

Date	Prevailing direction	Wind			Atmometer ¹ (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Kms.	Kms.		mm.	mm.	
1-10	S quad.	1,925.5	619.0	8	21.4	4.3	7
11-20	E quad.	1,125.5	215.0	12	18.2	3.0	18
21-31	E quad.	1,008.0	120.0	27	24.1	3.4	27

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	A. m.	A. m.		mm.	
1-10	23 05	5 40	6	51.4	9
11-20	35 55	8 30	18	191.1	10
21-31	44 00	8 00	23	26.8	6

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

**NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE
CITY OF MANILA BY NATIONALITIES**

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans	15	5	20	75.19
Filipinos	589	613	1,202	48.83
Spaniards	2	.....	2	12.05
Other Europeans	1	2	3	31.39
Chinese	30	22	52	84.81
All others	4	3	7	87.78
Total and average	641	645	1,286	47.91

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MARIKINA:							
1. Tondo.....	161	170	331	10	11	21	352
2. San Nicolas.....	41	46	87	4	4	8	91
3. Binondo.....	32	19	51	2	1	3	54
Total.....	234	235	469	16	12	28	497
No. II, SAMPALOC:							
4. Santa Cruz.....	59	71	130	3	4	7	137
5. Quiapo.....	18	30	48	8	4	12	60
6. San Miguel.....	10	7	17	1	1	2	19
7. Sampaloc.....	115	106	221	7	8	15	236
Total.....	202	214	416	19	16	35	451
No. III, PACO:							
8. Port Area.....							
9. Intramuros.....	25	18	43	1	2	3	46
10. Ermita.....	37	3	40	6	2	8	48
11. Malate.....	57	53	110	6	5	11	121
12. Paco.....	20	26	46	3	8	11	57
13. Pandacan.....	6	11	17	1	1	2	19
14. Santa Ana.....	14	15	29	1	2	3	32
Total.....	159	153	312	17	15	32	344
Grand total.....	595	602	1,197	46	43	89	1,286

Attended by physician, living 406; stillbirths, 23. Attended by midwives, living, 75; stillbirths, 0. Attended by families, living, 805; stillbirths, 26.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	1	1	2	2.76
Filipinos.....	292	268	560	22.75
Spaniards.....	8	3	11	15.08
Other Europeans.....	1	1	2	10.46
Chinese.....	23	5	28	18.48
All others.....	1	3	4	21.56
Total and average.....	321	276	597	22.24

**NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA
BY DISTRICTS**

[Stillbirths not included]

Districts	Male	Female	Total
No. I, METRIC:			
1. Tondo.....	79	105	184
2. San Nicolas.....	28	19	47
3. Binondo.....	15	9	24
Total.....	122	133	255
No. II, SAMPALOC:			
4. Santa Cruz.....	57	44	101
5. Quiapo.....	17	8	25
6. San Miguel.....	8	2	10
7. Sampaloc.....	43	37	80
Total.....	125	91	216
No. III, PACO:			
8. Port Area.....	16	6	22
9. Intramuros.....	8	8	16
10. Ermita.....	28	19	47
11. Malate.....	8	11	19
12. Paro.....	9	4	13
13. Pandacan.....	5	4	9
14. Santa Ana.....			
Total.....	74	52	126
Grand total.....	321	276	597

**NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA,
TRANSIENTS INCLUDED**

[Stillbirths not included]

Social conditions	Male	Female
Married.....	110	70
Divorced.....		
Widowed.....	28	59
Single.....	236	179
Conditions not stated.....		1
Total.....	374	309
Grand total.....	683	

Stillbirths.....	49
Number of deaths with medical attendance.....	428
Number of deaths without medical attendance.....	255

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	87	70	8	8	173
1 year plus	25	36	1		62
2 years plus	17	11		1	29
3 years plus	7	11	1		19
4 years plus	4	5	2		11
5 to 9 years	11	9	8		28
10 to 14 years	7	5			12
15 to 19 years	14	11	6	3	34
20 to 24 years	21	9	6	3	39
25 to 29 years	8	14	6	4	32
30 to 34 years	14	8	1	2	25
35 to 39 years	10	7	3	3	23
40 to 44 years	18	10	1		29
45 to 49 years	14	10	5	2	31
50 to 54 years	20	8	2	3	33
55 to 59 years	9	8	3	3	23
60 to 64 years	13	9	1		23
65 to 69 years	6	6	3		15
70 to 74 years	4	4			8
75 to 79 years	4	5	1		10
80 to 84 years	4	9		1	14
85 to 89 years	2	2			4
90 to 94 years	1	3			4
95 to 99 years		4			4
100 years and over	1	2			3
Age not stated					
Total	321	276	53	33	688

49	Cancer and other malignant tumors of other or unspecified organs.	1	2			3
51	Acute rheumatic fever.	1				1
55	Beriberi:					
	a. Infants.	20	14		2	36
56	Rickets.	3	2			5
57	Diabetes mellitus.	7	7			14
62	Diseases of the thymus gland.	1				1
69	Other general diseases.	2	1			3
70-86						1
III. Diseases of the nervous system and of the organs of special sense						
71	Meningitis:					
	a. Simple meningitis.	1	5			6
	b. Nonepidemic cerebrospinal meningitis.	1	1			2
72	Tabs dorsalis (locomotor ataxia).					1
74	Cerebral hemorrhage, apoplexy:					
	a. Cerebral hemorrhage.	4	3			7
76	General paralysis of the insane.	1				1
77	Other forms of mental alienation.	2	1			3
78	Epilepsy.	1				1
80	Infantile convulsions (under 5 years of age).	3				3
84	Other diseases of the nervous system.		1			2
86	Diseases of the ear and of the mastoid process:					
	a. Diseases of the ear.	1				1
87-96						
IV. Diseases of the circulatory system						
88	Endocarditis and myocarditis (acute).	1	1			3
90	Other diseases of the heart.	5	1		1	8
91	Diseases of the arteries:					
	b. Arteriosclerosis.	1	1			2
92	Embolism and thrombosis (not cerebral).	1	1			1
97-107						
V. Diseases of the respiratory system						
97	Diseases of the nasal fossae and their annexa:					
99	Bronchitis:					
	a. Acute.	14	19			33
	b. Chronic.	6	7			13
100	Broncho-pneumonia:					
	a. Broncho-pneumonia.	30	21	1		53
	b. Capillary bronchitis.	2	1			3
101	Pneumonia:					
	a. Lobar.	5	5			10
102	Pleurisy.	1	1			2
107	Other diseases of the respiratory system (tuberculosis excepted):					
	c. Other under this title.	1				1

[illegible]

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

[illegible]

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued
[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
43-69	II. General diseases not included in Class I													
43	Cancer and other malignant tumors of the buccal cavity.....				1									1
44	Cancer and other malignant tumors of the stomach, liver.....			1										1
49	Cancer and other malignant tumors of other or unspecified organs.....	1												1
55	Beriberi: a. Infants.....										1			1
58	Anemia, chlorosis: a. Pernicious anemia.....													2
62	Diseases of the thymus gland.....			1				1						2
70-86	III. Diseases of the nervous system and of the organs of special sense													
70	Encephalitis.....			1										1
71	Meningitis: a. Simple meningitis.....			1										1
74	Cerebral hemorrhage, apoplexy: a. Cerebral hemorrhage.....				1									1
77	Other forms of mental alienation.....			2										2
87-96	IV. Diseases of the circulatory system													
87	Pericarditis.....			1										1
90	Other diseases of the heart.....				1									1
97-107	V. Diseases of the respiratory system													
99	Bronchitis: a. Acute.....													2
	b. Chronic.....			1										1
100	Broncho-pneumonia: a. Broncho-pneumonia.....													8
	b. Capillary bronchitis.....			4										4
101	Pneumonia: a. Lobar.....													1
107	Other diseases of the respiratory system (tuberculosis excepted): c. Others under this title.....			1				1						2

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
29. Tetanus:						
a. Umbilical.....				4		
32. Tuberculosis of the meninges and central nervous system.....					1	1
41. Purulent infection, septicemia.....					1	1
55. Beriberi:						
a. Infants.....		1		7	30	38
56. Rickets.....					1	1
62. Diseases of the thymus gland.....					1	1
71. Meningitis:						
a. Simple meningitis.....					2	2
b. Nonepidemic cerebrospinal meningitis.....					1	1
80. Infantile convulsions.....				1	2	3
99. Bronchitis:						
a. Acute.....				1	24	25
b. Chronic.....					5	5
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....					27	27
b. Capillary bronchitis.....					2	2
112. Other diseases of the stomach (cancer excepted).....					2	2
113. Diarrhea and enteritis.....					11	11
128. Acute nephritis.....					2	2
131. Other diseases of the kidneys and annexa.....					1	1
153. Acute abscess.....					1	1
160. Congenital debility, icterus, and sclerema.....	4			10	8	22
161. Premature birth; injury at birth:						
a. Premature birth (not still-born).....	12	3		3	1	19
b. Injury at birth (not still-born).....	1					1
162. Other diseases peculiar to early infancy.....			1		1	2
179. Accidental burns (conflagration excepted).....					1	1
Total.....	17	4	1	26	125	173

ANTIPLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	22,289
Number of rats caught by spring traps.....	3,000
Number of cage wire traps set.....	682
Number of rats caught by cage wire traps.....	4
Number and kind of baits (coconuts).....	22,971
Number of poison portions placed.....	13,991
Number of rats found poisoned.....	277
Number of rats killed by clubs and other weapons.....	1,080
Number of rats found dead from other causes.....	548
Total number of rats otherwise caught, found dead, or killed.....	4,909
Total number of rats sent to the Laboratory for examination.....	4,909
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF OCTOBER, 1926, CITY OF MANILA
CONFIRMED CASES

501

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I. { No. 1.	2		4	1					2		4	1	6	1
No. 2.	1	1							1	1			1	1
No. 3.	6	2	1						6	2	1		7	2
No. 4.														
II. { No. 5.														
No. 6.	2	2							2	2			2	2
No. 7.														
No. 8.	1		1	1					1		1	1	2	1
No. 9.	2	1	3	1					2	1	3	1	5	1
No. 10.														
No. 11.	1		1						1		1		2	1
No. 12.														
No. 13.														
No. 14.														
Grand total	15	6	10	3					15	6	10	3	25	9

REMARKS:

Cases confirmed as typhoid fever..... 25
 Cases confirmed as paratyphoid fever..... 0
 By autopsy.....
 By blood culture..... 0
 By widal reaction..... 0
 By urine examination..... 2
 By feces examination..... 0
 By clinical symptoms..... 23
 Cases reported among nonresident persons not included in the table..... 13
 Deaths reported among nonresident persons not included in the table..... 2

Typhoid carrier—1

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I.	No. 1.....	1								1			1	
	No. 2.....													
	No. 3.....													
	No. 4.....	3								3			3	
II.	No. 5.....													
	No. 6.....													
	No. 7.....	1								1			1	
	No. 8.....													
III.	No. 9.....													
	No. 10.....													
	No. 11.....	1								1			1	
	No. 12.....													
Grand total.....	No. 13.....													
	No. 14.....													
		6								6			6	

REMARKS:

No nonresident case was reported during the month.

Cholera carrier—43

DIPHTHERIA REPORTED DURING THE MONTH OF OCTOBER, 1926. CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female			Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths			
L...	No. 1																			
	No. 2																			
	No. 3																			
	No. 4	1		2	1								1			2	1		3	1
II..	No. 5																			
	No. 6																			
	No. 7			2												2			2	
	No. 8																			
	No. 9																			
	No. 10																			
	No. 11	1		1	1								1			1	1		2	1
	No. 12			1												1			1	
	No. 13																			
	No. 14																			
Grand total	2			6	2								2			6	2		8	2

REMARKS:

Cases reported among nonresident persons not included in the table

Deaths reported among nonresident persons not included in the table

Diphtheria carrier—1

2

0

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF OCTOBER, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	9	5	1	1
Varicella.....		2		
Varioloid.....				
Smallpox.....				
Measles.....	1	1		
Whooping cough.....		1		1
Influenza.....	10	6	1	1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	188	149	84	66
Tuberculosis of all forms.....	9	11	9	11
Beriberi, infantile.....	20	16	20	16
Beriberi, adult.....	3	2	3	2

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	22	2		
Varicella.....	8	2		
Varioloid.....				
Smallpox.....				
Measles.....	1	1		
Whooping cough.....				
Influenza.....				
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	2		1	
Pulmonary tuberculosis.....	33	15	10	8
Tuberculosis of all forms.....	2	3	2	3
Beriberi, infantile.....	2		2	
Beriberi, adult.....				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF OCTOBER, 1926**

Sera and vaccines	On hand October 1, 1926	Received during the month	Total to be accounted for	Distrib- uted during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	1,220,000		1,220,000	400,000	820,000
Anti-dysenteric serum (ampoules).....	173		173	110	63
Anti-tetanic serum (units).....	325,000	70,000	395,000	110,000	285,000
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	23,050	87,000	110,050	83,100	26,950
Dried vaccine virus (units).....	97,000	100,000	197,000	84,900	112,100
Fresh vaccine virus (units).....	187,600	200,000	387,600	167,500	220,100
Gonococcus vaccine (ampoules).....		50	50	50	
Mixed typhoid-cholera vaccine (c.c.).....	42,560	117,000	159,560	110,000	49,560
Normal horse serum (ampoules).....					
Typhoid vaccine (c.c.).....	10,100	18,000	28,100	20,400	7,700

REPORT OF ANTISMALLPOX VACCINATIONS IN THE CITY OF MANILA. DURING THE MONTH OF OCTOBER, 1924

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated							
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		6 years and over		Total	
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Positive	Negative	
No. 1.	Tondo.....	329	282	.....	47	387	43	5	.....	392	43	
	San Nicolas.....	751	127	592	32	84	5	29	3	116	18	
	Rinondo.....	179	150	4	25	105	18	12	5	117	18	
	Santa Cruz.....	1,259	206	863	190	190	14	54	151	396	316	
	Quisapo.....	73	63	2	8	42	2	1	.....	43	2	
No. 2.	San Miguel.....	54	50	.....	4	24	.....	3	.....	27	.....
	Sampaloc.....	621	321	220	80	315	21	51	14	380	32	
	Port Area.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Intramuros.....	72	66	.....	6	61	17	1	.....	62	17	
	Ermita.....	141	134	.....	7	147	12	1	.....	148	12	
No. 3.	Malate.....	133	104	2	27	104	16	8	1	116	17	
	Paco.....	160	145	4	11	62	8	2	1	65	9	
	Pandacan.....	52	48	4	4	18	8	1	.....	19	8	
	Santa Ana.....	52	49	.....	3	39	5	.....	.....	39	5	
	Total.....	3,876	1,745	1,637	444	1,578	169	168	10	1,919	496	

Vaccine virus:

Received	13,300
Used	8,000
Remained	5,300

ANTIDYSENTERY VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF OCTOBER, 1926

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1	Tondo.....	82	51	61	52	143	103
	San Nicolas.....	45	41	28	20	73	61
	Binondo.....	14	9	8	1	22	10
	Santa Cruz.....	17	11	9	7	26	18
No. 2	Quiapo.....	13	19	9	9	13	28
	San Miguel.....	4	10	2	2	6	12
	Sampaloc.....						
	Port Area.....						
No. 3	Intramuros.....						
	Ermila.....						
	Malate.....						
	Paco.....						
	Pandacan.....						
	Santa Ana.....						
	Total.....	175	141	103	91	283	232

**CONSOLIDATED REPORT OF ANTISMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	Total vaccina- tions	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra.....	34,964	4,572	19,263	11,129
Agusan.....	10,472	2,291	4,716	3,466
Albay.....	28,512	9,326	4,837	14,379
Antique.....	97,291	15,561	57,942	23,788
Bataan.....	11,771	4,338	3,765	3,668
Batanes.....	3,194	213	657	2,284
Batangas.....	44,797	10,291	15,171	19,335
Bohol.....	41,019	9,246	14,008	17,766
Bukidnon.....	3,727	915	1,154	1,658
Bulacan.....	51,870	9,374	33,408	9,088
Cagayan.....	28,941	6,003	11,602	11,486
Camarines Norte.....	49,398	6,772	32,074	10,552
Camarines Sur.....	80,437	11,084	49,436	19,917
Capiz.....	66,282	14,339	37,538	14,406
Catanduanes.....	12,469	2,222	2,939	7,308
Cavite.....	29,067	5,612	14,365	9,090
Cebu.....	114,122	33,997	26,584	53,541
Cotabato.....	20,947	6,536	6,729	7,683
Davao.....	18,679	4,440	9,191	5,048
Ilocos Norte.....	32,205	6,780	11,301	14,124
Ilocos Sur.....	35,095	7,210	6,951	20,934
Iloilo.....	95,900	30,730	42,473	22,697
Ibabela.....	106,575	25,805	67,592	13,178
Laguna.....	31,374	7,712	14,757	8,905
Lanao.....	5,339	1,346	2,593	1,400
La Union.....	25,807	4,813	1,328	19,666
Leyte.....	51,139	19,476	4,586	27,077
Marinduque.....	10,887	1,923	3,729	5,235
Masbate.....	10,767	3,226	2,379	5,162
Mindoro.....	59,476	13,233	35,303	10,940
Misamis.....	104,185	17,453	55,619	31,113
Mountain Province.....	37,404	9,225	19,103	9,076
Nueva Ecija.....	37,997	10,478	9,136	18,383
Nueva Vizcaya.....	12,686	1,261	7,706	3,719
Occidental Negros.....	38,552	20,993	6,901	10,658
Oriental Negros.....	33,660	8,694	11,956	13,010
Palawan.....	4,458	2,408	1,642	408
Pampanga.....	44,652	7,326	20,312	17,014
Pangasinan.....	70,436	17,377	16,948	36,111
Rizal.....	103,954	18,134	73,135	12,685
Romblon.....	18,659	4,175	9,730	4,754
Samar.....	150,802	29,065	83,182	38,555
Sorsogon.....	24,996	10,085	177	14,734
Sulu.....	10,699	5,329	2,524	2,746
Surigao.....	40,601	11,946	16,030	12,625
Tarlac.....	28,673	5,358	17,596	5,719
Tayabas.....	22,882	12,806	9,474	1,102
Zambales.....	11,035	2,392	2,976	5,667
Zamboanga.....	9,975	2,192	4,035	3,748
Total.....	2,018,859	475,581	906,592	636,686

¹ Incomplete; reports from other provinces not yet received.

Vaccinations performed by the vaccinating parties are included in the above table.

**CONSOLIDATED REPORTS OF ANTISMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926—Continued**

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	940	467	5,255	1,865	13,484	7,913	19,679	10,245
Agusan.....	361	171	689	290	1,843	2,101	2,893	2,562
Albay.....	4,138	1,148	3,982	1,091	5,010	2,519	13,130	4,758
Antique.....	3,863	790	8,964	4,805	22,124	28,996	34,451	34,591
Bataan.....	2,099	421	3,439	1,285	2,406	1,252	7,944	2,958
Batanes.....	188	112	498	253	1,284	605	1,970	970
Batangas.....	3,929	567	8,163	2,510	10,347	8,654	22,439	11,731
Bohol.....	4,960	1,510	6,227	2,894	11,515	9,641	22,702	14,046
Bukidnon.....	78	36	165	155	1,123	876	1,366	1,067
Bulacan.....	5,056	777	6,361	2,664	18,048	13,309	29,465	16,750
Cagayan.....	2,164	536	4,578	1,373	10,317	7,724	17,059	9,633
Camarines Norte.....	1,530	234	4,245	910	17,010	9,160	22,785	10,304
Camarines Sur.....	4,052	1,080	8,765	2,249	29,432	13,067	42,249	16,396
Capiz.....	3,659	909	6,735	2,230	22,284	13,914	32,578	17,053
Catanduanes.....	1,153	556	1,311	748	1,944	1,247	4,408	2,546
Cavite.....	4,790	495	3,802	952	12,584	6,260	21,176	7,707
Cebu.....	9,387	3,721	10,620	3,927	15,833	13,711	35,840	21,359
Cotabato.....	280	191	1,086	750	4,076	3,227	5,442	4,168
Davao.....	397	177	1,238	810	4,272	5,074	5,907	6,061
Ilocos Norte.....	3,203	807	6,916	1,879	7,970	8,543	17,089	11,229
Ilocos Sur.....	5,600	1,248	6,084	2,355	6,578	6,947	18,262	10,550
Iloilo.....	6,126	728	13,749	2,921	28,994	16,773	48,869	20,422
Isabela.....	1,925	534	8,465	2,565	25,201	19,922	35,581	23,021
Laguna.....	3,723	911	3,437	1,851	7,780	10,692	14,940	18,454
Lanao.....	109	16	218	63	754	510	1,081	589
La Union.....	2,412	722	3,117	2,504	3,375	5,435	8,904	8,661
Leyte.....	2,926	1,073	6,428	2,303	9,278	3,583	18,632	6,959
Marinduque.....	591	168	1,285	514	3,188	1,921	5,064	2,603
Masbate.....	777	264	1,339	723	2,897	2,226	5,013	3,213
Mindoro.....	1,425	210	5,478	860	23,009	10,233	29,912	11,308
Misamis.....	2,073	637	8,887	2,271	35,764	16,182	46,724	19,090
Mountain Province.....	922	559	3,390	1,524	7,109	6,603	11,421	8,686
Nueva Ecija.....	4,480	897	7,491	2,355	9,831	7,712	21,802	10,964
Nueva Vizcaya.....	514	72	1,476	624	5,203	5,553	7,193	6,249
Occidental Negros.....	6,554	1,394	8,340	2,244	8,318	3,288	23,212	6,926
Oriental Negros.....	3,060	1,112	4,743	2,154	9,481	5,418	17,284	8,684
Palawan.....	151	35	262	76	1,090	692	1,503	803
Pampanga.....	2,844	663	3,730	1,384	9,979	8,566	16,553	10,613
Pangasinan.....	9,253	2,602	13,512	4,759	18,896	17,936	41,660	25,297
Rizal.....	6,065	1,280	9,206	3,772	18,859	25,625	34,130	30,677
Romblon.....	739	149	2,155	563	5,946	3,322	8,840	3,974
Samar.....	5,070	1,662	17,690	4,882	52,633	21,656	75,393	28,200
Sorsogon.....	2,035	880	4,630	1,968	4,366	2,254	11,031	5,102
Sulu.....	461	116	1,848	542	3,727	1,565	6,036	2,223
Surigao.....	918	496	2,896	2,122	8,409	10,587	12,223	18,206
Tarlac.....	2,510	952	3,999	1,830	5,987	9,064	12,496	11,846
Tayabas.....	3,538	918	6,147	1,697	12,159	6,746	21,844	9,361
Zambales.....	1,170	280	1,712	1,011	2,654	3,859	5,636	5,180
Zamboanga.....	605	269	644	526	1,986	2,357	3,135	8,162
Total.....	134,103	35,546	244,387	86,573	546,356	395,020	924,846	517,139

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTICHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	38,208	3,254		41,462
Antique.....	17,530	5,021		22,551
Bataan.....	25,222	1,616		26,838
Batanes.....				
Batangas.....	176,729	11,731		188,460
Bicol.....				
Bikidnon.....	230	222		452
Bulacan.....	110,107	17,937		128,044
Cagayan.....				
Camarines Norte.....	576	268		844
Camarines Sur.....	40,208			40,208
Capiz.....	91,946			91,946
Catanduanes.....	5,715	2,146		7,861
Cavite.....	24,748			24,748
Cebu.....	3,519	87		3,606
Cotabato.....				
Davao.....	915	530		1,445
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	71,489	8,660		80,149
Isabela.....	14	14		28
Itaguna.....	103,774	20,616	1,164	125,554
Izanao.....				
Ia Union.....	4,296	1,553		5,849
Leyte.....	44,169	21,762		65,931
Marinduque.....	49,155	44,864	5,087	99,106
Masbate.....	3,305	1,136		4,441
Mindoro.....	25,741	7,962	1,992	35,695
Misamis.....				
Mountain Province.....				
Nueva Ecija.....	33,942			33,942
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....	40	43		83
Palawan.....				
Pampanga.....	159,612	4,767		164,379
Pangasinan.....	270,351	50,882		321,233
Rizal.....	174,891	13,842		188,733
Romblon.....	11,150	5,853		17,003
Samar.....	2,660	937		3,597
Sorsogon.....	7,811	56		7,867
Sulu.....	1	1		2
Surigao.....				
Tarlac.....	17,896	13,056		30,952
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	1,554,493	238,816	8,243	1,801,552

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTITYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....	536			536
Albay.....	341	169	100	613
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	351	272	10	636
Bohol.....				
Bukidnon.....				
Bulacan.....	485	257	227	969
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....	758	931		1,689
Catanduanes.....	777	254	10	1,041
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....				
Laguna.....	1,289	625	253	2,167
Lanao.....				
La Union.....	1,377	333	248	1,958
Leyte.....				
Marinduque.....				
Masbate.....	664	166		830
Mindoro.....				
Misamis.....				
Mountain Province.....	82	36		118
Nueva Ecija.....				
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	2,435	887	145	3,467
Pangasinan.....	1,018	614	193	1,825
Rizal.....				
Romblon.....				
Samar.....				
Sorsogon.....	898			898
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	11,017	4,544	1,186	16,747

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA) VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹

Provinces	First injections	Second injections	Third injections	Total
Abra.....	4,502	4,564		9,066
Agusan.....	9,011	2,494		11,505
Albay.....	27	33		60
Antique.....	9,249	2,289		11,538
Bataan.....	240	153		393
Batanes.....	180	168		348
Batangas.....	630	120		750
Bohol.....	2,585	2,177		4,762
Bukidnon.....				
Bulacan.....	3,389	794		4,183
Cagayan.....	5,311	2,498		7,809
Camarines Norte.....	3,736	2,662		6,398
Camarines Sur.....	5,938	2,942		8,880
Capiz.....	14,549	5,670		20,219
Catanduanes.....				
Cavite.....	11,028	3,648		17,676
Cebu.....	52,893	10,383		63,276
Cotabato.....	842	166		1,008
Davao.....	1,864	868		2,732
Ilocos Norte.....	30,396	6,403	1,150	37,949
Ilocos Sur.....	2,466	2,100		4,566
Iloilo.....	17,951	4,431		22,382
Isabela.....	322	252		574
Laguna.....				
Lanao.....	5,696	1,123		6,819
La Union.....	3,349	2,317		5,666
Leyte.....	14,363	6,745		21,108
Marinduque.....	528	102		630
Masbate.....	2,167			2,167
Mindoro.....				
Misamis.....	2,805	647		3,452
Mountain Province.....	1,717	93		1,810
Nueva Ecija.....	856	409		1,265
Nueva Vizcaya.....	2,686	1,873		4,559
Occidental Negros.....	57,854	45,578		103,432
Oriental Negros.....	4,778	2,394		7,172
Palawan.....				
Pampanga.....	7,148	2,472		9,620
Pangasinan.....	113	99		212
Rizal.....	9,641	1,942	251	11,834
Romblon.....	9			9
Samar.....	1,664	924		2,588
Sorsogon.....	1,797	201		1,998
Sulu.....				
Surigao.....	719	459		1,208
Tarlac.....	29,552	16,585		46,137
Tayabas.....	40,658	15,999		56,657
Zambales.....	8,036	7,399		15,435
Zamboanga.....	4,576	789		5,365
Total.....	380,791	162,965	1,401	545,157

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF OCTOBER, 1926

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF OCTOBER, 1926

Province and town	Case	Death
Nueva Viscaya:		
Bayombong.....	1	1
Total.....	1	1

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF OCTOBER, 1926**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampa- loc	No. 3 Paco	
Orders pending, October 1, 1926:				
Minor	141	257	117	515
Sewer	26	51	1	78
Vacating	8	12		20
Filling	10	35	17	62
Total	185	355	135	675
Orders issued during the month:				
Minor	41	55	8	104
Sewer				
Vacating			2	2
Filling				
Total	41	55	10	106
Orders completed during the month:				
Minor	19	21	11	51
Sewer	1			1
Vacating				
Filling				
Total	20	21	11	52
Orders cancelled during the month:				
Minor	3			3
Sewer				
Vacating				
Filling				
Total	3			3
Orders pending, October 31, 1926:				
Minor	163	291	114	568
Sewer	25	51	1	77
Vacating	8	12		20
Filling	10	35	19	64
Total	206	389	134	729
Strong material plans approved:				
New buildings including additions and alterations	25	36	44	105
Permits for minor building constructions:				
Approved	17	27	37	81
Disapproved	3	4	4	11
New buildings completed	15	44	28	87
Permits for light and mixed material constructions:				
Approved	14	27	21	62
Disapproved	8	1	2	11
Prosecutions:				
Convictions				
Dismissals	2			2
Amount of fines				
Plumbing projects issued	44	83	39	166
Plumbing projects completed	47	91	58	196
Premises connected to the sanitary sewer to September 30, 1926.	2,490	4,245	621	7,356
Connected during the month	1	7	10	18
Total	2,491	4,252	631	7,379

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

NOVEMBER, 1926

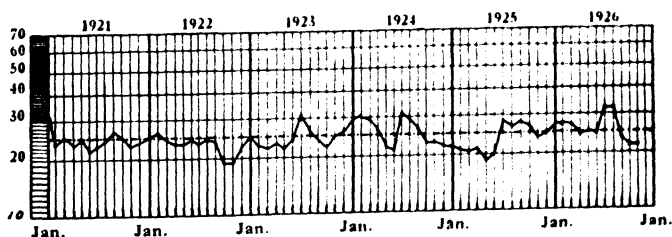
No. 11

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1927

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

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**SANITARY PROBLEMS ARISING FROM PUBLIC
CALAMITIES**

By **FLORENTINO AMPIL**, *District Inspector*

The municipalities of Batangas and Bauan, Province of Batangas, were severely hit by the recent typhoon which swept that place.

Upon receipt on November 9, 1926, of the Special Order directing the undersigned to the place he immediately took the afternoon train at 4.29, arriving at Batangas at 9 p. m.

From information gathered at the place, it was learned that the disaster was due to a combined typhoon and earthquake with the consequent tidal wave. There was a heavy toll of lives and properties. The municipal president of Batangas states that on the night of November 5, 1926, at 11 p. m. he went to the different places of the town to warn the people of the approaching storm. A few hours later, the municipal president said that he saw floating empty boxes and the water has risen to about sixty centimeters in the streets.

To avert impending danger, the president ordered the cutting of the electric current. A few hours later, between 12.30 a. m., November 6, 1926, he learned that the waters of the Calumpang River have risen from its bed and have flooded the lower part of the town. The dike was destroyed and the banks of the river cave in, eating up about sixty meters of land throughout its course. The barrio of Calumpang suffered the heaviest loss in life and property. Many houses were swept by the rushing current.

The district health officer of Batangas, upon learning of the disaster, mobilized his personnel to attend to the medico-sanitary needs of the stricken area. One group, composed of the president of sanitary division of Batangas, a nurse and a sanitary

inspector, was detailed to dispensary work. Another group composed of a nurse, a sanitary inspector, and a municipal police, was assigned to perform anti-cholera and anti-typhoid vaccinations. A third group, composed of four sanitary inspectors aided by 400 high-school students, was detailed to search for the bodies of dead persons and animals buried under the debris. This last group also performed disinfection work. The chief sanitary inspector was assigned to direct the work of 15 bull-carts and 3 motor trucks for a general cleaning of the places damaged including the poblacion (center of the town). The high-school students worked up to November 10, 1926, when they were relieved by the provincial prisoners, Constabulary soldiers and 120 men furnished daily by the municipal councilors and taken daily from the barrios which did not suffer very much from the storm.

From November 6 to 11, there were 104 reported dead and 37 missing, who were also supposed to have died by accidental drowning. It is believed that they may have been either carried to the sea by the current or buried in the debris. The dead bodies were immediately buried.

The district health officer gave instructions to the people not to use the waters from the river and from insanitary wells for drinking purposes. Only those taken from the water works and from artesian wells and rain waters were declared safe. Provisional closets of the pit type were provided.

The undersigned made the trip from Batangas to Bauan in company with the district health officer. In the municipality of Bauan the places damaged by the typhoon were the barrios located along the Bauan Bay, namely, San Andres, San Antonio, Bakilawa, Danlaya, and Bolo. The sanitary personnel detailed in this municipality were the corresponding president of Sanitary Division, a nurse, and 9 sanitary inspectors.

The waters of the small rivers which pass through the barrios also rose up from their beds, and, this fact coupled with the tidal wave, was responsible for the flood which took a heavy toll in life and property in these places. The number of dead and missing was reported to be 61 and 11, respectively. The president of Sanitary Division of Bauan reported that 17 dead were found in the municipality of Mabini. Report was received by the district health officer to the effect that 9 persons were found dead in the municipality of Lobo, which were all immediately buried. A male nurse was sent by the district health officer to

the municipality of Lobo to aid the sanitary inspector of that place. The same sanitary measures which were undertaken in the municipality of Batangas were also enforced in Bauan, Mabini, Lobo, and other municipalities hit by the typhoon.

CONCLUSIONS

It is believed that—(a) All the necessary sanitary measures to prevent the spread of communicable diseases have been taken by the sanitary personnel of Batangas;

(b) All dead bodies have been immediately buried;

(c) All wastes have been properly disposed of and incinerated and the necessary workers have been detailed in the places damaged;

(d) There have been a close coöperation between the provincial and municipal authorities and the Philippine Health Service personnel;

(e) The district health officer has already vaccinated most of the people; and to prevent the appearance of any disease such as cholera, typhoid fever, and dysentery, as a result of the disaster, he again ordered re-vaccination in the places damaged;

(f) The appearance of any epidemic such as cholera, typhoid fever, and dysentery is not probable at the present time in the storm-stricken area, and that should some cases appear in the future, they can be properly handled.

BLOOD CHEMISTRY STUDIES IN LEPROSY

II. THE ALKALI RESERVE

By ERNESTO M. PARAS

*Of the Chemical Section, Culion Leper Colony
Philippine Health Service*

[Abstract]

The investigation reported in the present paper is a preliminary survey of the acidimetric condition of the blood in leprosy. This consists of examining the "alkali reserve" by the use of Van Slyke's method for determining the plasma carbon dioxide combining capacity.

In the investigation, 12 healthy adults were examined to serve as controls and 110 cases of leprosy grouped as follows: (a) uncomplicated leprosy, (b) lepra reaction without alkaline treatment, (c) lepra reaction with alkaline treatment, (d) leprosy with tuberculosis, (e) leprosy with nephritis, (f) leprosy with miscellaneous complications.

The variation of CO_2 readings obtained for the normal control is from 60 to 78 volume per cent. This compared favorably with the findings of other authors.

A study of the results collected brings out the following points:

(1) Uncomplicated leprosy is not accompanied by any significant change of the alkali reserve.

(2) In lepra reaction most cases gave normal results, possibly reduction of alkali reserve occurs only in a severe febrile reaction.

(3) Readings, characteristic of alkalosis were observed in some of those cases with lepra reaction who received alkali treatment.

(4) Significant reduction of the alkali reserve was observed in the group of lepers with nephritis and with the group with miscellaneous complications.

(5) Practically normal results were noted for the group of lepers with tuberculosis.

(6) No correlation can be traced between the alkali reserve and the duration, type, and advancement of leprosy or the anti-leprosy treatment.

Determination of alkali reserve is evidently important, in connection with alkali therapy, in lepra reaction, and is valuable in the study of nephritis among lepers.

SIXTH CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE

By C. MANALANG

Senior Medical Inspector, P.H.S.

The Congress, under the presidency of Baron Kitasato, was formally opened by the patron, Viscount Kato, Premier of Japan, on October 12 at 10 a. m. in the Imperial University Auditorium. Among the more than 1,000 people present, there were more than 100 foreign delegates and more than twice as many Japanese delegates. Thirteen countries in the Far East were represented.

Scientific sessions began at two o'clock on the afternoon of the first day and ended in the afternoon of the sixteenth of October. A general business meeting was held on the morning of the seventeenth. To facilitate the reading of about 300 papers, the sessions were divided into A, B, C, D sections and papers by absent members were only read by title. The Philippines submitted 17 papers from the U. S. Army Research Board, the Bureau of Science, the College of Medicine of the University, and Philippine Health Service.

The presidential address by Baron Kitasato was as follows:

YOUR EXCELLENCIES, LADIES, AND GENTLEMEN:

As President of the Association, I feel highly honored to be called upon to greet such a large audience of foreign and Japanese members at the opening session of the Sixth Congress of the Far Eastern Association of Tropical Medicine.

Ladies and Gentlemen from foreign countries: we feel an unmingled joy to welcome you in the bosom of our home, have you spend a few week's time here, and work with us for the common cause of science and civilization. From the foreign members especially, we are deeply interested to hear on this occasion frank criticism of our medical, sanitary and allied institutions.

In opening this Congress, I wish to express first of all my thanks as President for all the sympathies shown and assistance given from various quarters. The Imperial Household has proposed to entertain us to a tea-party in the Imperial Garden at Shinjiku to show their special regard for the guests from far-off lands. I wish to thank the Government, especially Viscount Premier Kato, patron of the Association, for the patronage and guidance they have given us in various ways to help this Congress attain a brilliant result, a monumental record. We are also deeply indebted to the Tokyo municipality and to many of our patrons mostly the honorary advisers of this Association, who have assisted us

with personal influence and generous bounties in preparing for this session. Last but not least, our most profound gratitude is due to the committee members who have made literally self-sacrificing effort in arranging this meeting by paying thoroughgoing attention to the minutest details in order to assure this a success and give satisfaction all around.

Now coming to the proper subject of our discussion, I wish to be allowed to make a few general remarks. To begin with, when we speak of medicine, we have been accustomed to understand curative medicine. Such a conception is primarily due to the force of tradition, because the cure of a disease was long the main, even unique, aim of the medical art. But a new direction was introduced by the recent discovery of the true cause of the infectious diseases, by leading to the birth and quick growth of preventive medicine. Furthermore, the development of biochemistry has given rise to the science of nutrition; while along with the progress of general industries, physiology has come to assume an ever-increasing importance in relation to public health so that now preventive medicine is commanding as important a position as, if not more important than, curative medicine in furthering the welfare of human communities.

Now with regard to the development of preventive medicine, the inroad of western civilization into the tropical and subtropical countries has incidentally served as a potent cause of stimulation. The development of the natural resources and the prosperity of those regions are depending to a large extent on the assistance of preventive medicine. Studies and investigations, steadily advancing year after year, impelled as much by scientific interest as by pressing necessity, have wrought wonderful result both in laboratories and application, and are insuring health and longevity to the races of mankind. If health and longevity form the foundation of human happiness, I am sure that it is never too much to say that the result so far obtained does more than amply justify the tremendous exertion and expenditure the different governments have not begrudged to invest in such an undertaking. I have here spoken of preventive medicine as opposed to curative medicine, but let it not be misunderstood that I mean to say that they are essentially two different things. Whatever may the external differences be, they grow from the same root and culminate in the same end. They are like a set of wheels, or the wings of a bird. Their inter-relationship is closely mutual. Their bearing on human life and the general welfare of a community can be important only when there is maintained a well concerted action between the two branches of medical sciences. I think that I am right in saying this when we view the recent tendency of the development of medical sciences. "Learning knows no frontier" is an old saying, but its impression is always fresh and vigorous. The discovery of a new theory and its application in practical life spread from one country to another in a few weeks, days—even hours. Jenner's vaccination, Pasteur's prophylactic inoculation against rabies, Koch's discovery of cholera vibrio and tuberculosis bacillus, the serum treatment of diphtheria, tetanus, and others are some of the instances. The scope of our subject-matter of study is no less broad. In these days of railroad and steam navigation, the spread of an epidemic disease is fast and world-wide. Our experience at the time of the Spanish influenza a few years ago will fully endorse my statement. The discovery of the causes of maladies, their prevention and

ultimate cure must be, therefore, carried out on an international scale; otherwise, we can vainly hope to accomplish any substantial result. I believe that this is but another meaning in which the old saying has to be interpreted. We can do nothing unless we men in the medical profession try to be internationally coöperative and helpful.

It was unfortunate enough that the World War should have broken out and deeply disturbed international coöperation and helpfulness. At the close of the War, President Wilson inaugurated the League of Nations as the corner-stone of the world peace. The League, including within its functions the work of hygiene, formed the Health Committee to undertake international prevention of disease. This branch of the League, recommending itself by the most brilliant result it has accomplished, now constitutes one of the most important sections of the League's work. Even the United States, which does not yet belong to the League, has informally participated in the work of this committee. The Rockefeller Foundation has also given it a generous support thereby abiding by the spirit of international coöperation in public health. In spite of such a favorable development in general, the disastrous effect created by the long-drawn hostility has seemingly not yet been wiped out in the Western countries. I am saying this for, notwithstanding the paramount importance of team work, the International Medical Congress has never been reopened since the war either in America or Europe. In contrast to that, however, the situation in the Far East has been far more felicitous. Two successful meetings of our Association have already been held since the close of the War and accomplished a result comparing far more favorably with what had been accomplished before the War. This is due to the undisturbed reign of peace in the Far East, a blessing for which we feel deeply thankful to God. When we look toward the Far Eastern horizon, there is at the present time not one speck of ominous cloud that may spread and envelop the blue skies bending over these parts of the world. Mutual coöperation among ourselves in the medical profession is steadily increasing. It would, indeed, require a person to be crazy to fear the foes which do not exist and talk of defence and preparedness. They are fools startled in day-dreams. The immense disaster wrought by the World War seems not enough to open their eyes. Instead of getting nervous about the enemies in the imagination, they should learn to feel the dreadful menace from the formidable enemies that actually exist confronting us everywhere at all times. Causes of suffering are countless. Malaria, plague, cholera, and other epidemics—rampant in the tropical and subtropical countries—are taking their toll of life by the millions every year. All round the year, in the East as well as the West, tuberculosis, syphilis, cancer are torturing humanity with merciless fury. The danger due to insufficient nutrition are threatening the very existence of children and grown-ups alike. Thus the damage to result from the imperfection of public health work is infinitely more ruinous than the devastation of a great war. All the human power and material resources that are yearly spent in preparing for the imaginary foes, the shadows of one's own suspicion and nervousness, could be far more wisely spent in the preparation against the common enemy of mankind—disease in its thousand and one forms. The conquest of, and defence against, this common enemy of mankind has to be conducted on a rational and practical method; and we

believe that it is the noblest form of duty, incumbent on us in the medical profession, to urge the different governments of the world to lay out well-concerted plans with effect and dispatch for fighting the diseases and relieving human beings out of their cruel grip.

The study and investigation of theories is not the sole object of this Association. We have done a great deal already in combating the practical difficulties connected with the prevention and cure of diseases which are common to all nations and races. At each meeting, we have appointed committees for the investigation of some important special problems and reported the result of the investigation to the governments of different countries to impress upon them the urgent necessity of eliminating the causes of troubles. Much has been done, and yet much has still to be done. We are still finding a large number of great problems awaiting solution at our hands. We must call forth that energy and those mental resources we have so that we may successfully undertake this high mission of humanity which God calls upon us to discharge with credit to human ability. Certainly, we cannot do this single-handed. We have to rely on further help from the general public. They have done a great deal for us already. We are very grateful for the generous support given us in preparing for the opening of this meeting in Tokyo by personages outside of the medical profession. This indicates how dearly our people love the work of peace and evaluate the supreme importance of medicine and hygiene. Your Excellencies, ladies and gentlemen, who have gathered here from all parts of the world, will—it is to be hoped—exchange their views on different topics with utter frankness and formulate effective plans for the campaign we are driving against the common foe of humanity. This is our sole wish in addressing you in opening this meeting of the Sixth Congress of this Association.

Concluding, I beg to thank you for honoring this meeting with your coveted presence and most earnestly pray that this Congress will be enabled to reap abundant fruit resulting in great contribution to the cause of the medical sciences and the general good of mankind.

THE MEDICAL EXHIBITS OF THE SIXTH CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE

Some time was also spent in looking over the Medical Exhibition of the Congress consisting of:

1. The Medical History of Japan,
2. Statistics, Scientific Specimens, and Biological Products,
3. Drugs and Instruments,
4. Clothing and Domestic Utensils,
5. Sanitary Equipments,
6. Medicinal Plants.

The exhibition building was very well attended by the public during the entire session.

One-half of the very spacious ground-floor of the building was occupied by extensive, well-arranged, and labeled exhibits of the necessities of life for the middle-class homes. These exhibits

consisted of clothing for different seasons, pottery, kitchen utensils, furniture and bedding, foods (such as fresh and dried fish, vegetables, eggs), wines, preserves, and tobacco. Different menus and the necessary quantities of a well-balanced diet were also exhibited. There were also displays of different forms of footwear, articles for home entertainment such as checkers and musical instruments. The other half of the ground floor was occupied by the Offices of the Far Eastern Association of Tropical Medicine, rest-rooms, cloak-rooms, tea-tables, literature tables, and shelves.

The second floor contained the following exhibits: Yamakoshi Factory, Tokyo; exhibits of beautiful life-size and colored anatomical and pathological wax models and embryological preparations of lizards, fishes; frogs, snakes, turtles, and bats by the Shinadzu Seisakusho, Ltd., Tokyo. M. and Katera Optical Works and K. Manki of Tokyo exhibited Japanese-made microscopes, the Katera and Olympus respectively.

F. Matsumoto and T. Noda and Saito Companies exhibited all varieties of laboratory supplies, such as incubators, sterilizers, glassware, etc. Seimadzu Seisikusho exhibited X-rays apparatus of different sizes and potency.

Radium Seitaku, Tokyo, showed different radium and radioactive preparations.

Okomoto and Co. exhibited their apparatus for hydrogen-ion concentration tests.

Hoshi, a very large manufacturer, exhibited preparations, particularly Quinine which is being exported to all parts of the world. The raw material is imported from Java.

There was a very instructive exhibit of the work against beriberi with statistical charts and different preparations used, as injections for the cure of the disease. The main contents of these drugs is Vitamin B derived as a rule from rice-bran, in much the same way as tiki-tiki is extracted. The use of anti-beriberi has reduced the number of days of treatment to 6.55 days in 1922 on 821 cases.

The Nishihara Engineering exhibited different models of residential and institutional sewage-disposal plants on much the same principle as the septic-tanks, except that the fluid is made to pass thru coarse or fine-pebble filters before discharging into the subsoil.

The third floor contained exhibits of more than 100 Japanese medical journals either published in Japanese, German, or English.

The Ministry of Education showed numerous statistical charts including curves by different years of the results of medical, dental, and pharmaceutical examinations. The curves showed marked recent improvement in the medical education with increased number of failures among the dental and pharmaceutical applicants.

The National Research Institute of Physics and Chemistry showed plans and activities in the form of charts and schemes.

Models of slow and rapid-water filtration-plants were shown. There was also a complete set of pictures of hundreds of hot and cold springs with the chemical analysis and their medicinal values.

The Nippon Yusen Kaisha Steamship Co. exhibited some of the dispensaries and bacteriological laboratories on some of their larger ships. In these floating laboratories, cholera and other examinations are performed on passengers during the voyage.

An exhibit of all medicinal plants encountered in Japan in dried form was on this floor. There was also an exhibit of parasitic diseases in pictures and specimens, such as filaria, the different flukes and their primary and secondary intermediary hosts.

Paragonimiasis, is, for example, a disease described by Musgrave in the Philippines is a disease of the lungs of pigs in Japan, has a snail for the first intermediary host, and a crab for the second intermediary host.

The dental exhibits carried numerous specimens of diseased teeth and their complications, with pictures of clinical cases.

The Bureau of Statistics showed numerous charts and graphs on vital statistics, and also studies on accidents including incidence by months and hours of the day.

The Naval and Military Medical departments showed their equipments in the field, laboratory, X-ray, litters, tent arrangement, etc. The standard well-balanced diet for the use of the Army and Navy was also exhibited.

There were illustrative models of leprosy showing different stages and its curability, pathological specimens, and pictures of leprosaria.

The Imperial Hygiene Laboratory showed its work on fowl neuritis by feeding with highly polished rice.

There was a complete reproduction in models of the activities, during the 1923 earthquake, of the Red Cross Society and the Charity Hospital.

The Antituberculosis Society showed models and pictures of outdoor life and the activities of the Society.

Exhibits of the medical history of Japan shows that modern medicine in Japan was of Dutch origin. Surgery was introduced about 1661. Instruments of those times were shown. There was exhibited an old edition of Ambrosio Pare's book, 1655. There were old forceps (obstetrical) of Von Scibold. There were pictures of Dutch physicians at work and a large collection of old books and excellent water-color pictures of both anatomical and pathological conditions of different organs, by Dutch and Japanese scholars.

In the garden of the exhibition building were many living medicinal plants in pots labeled with their botanical names and medicinal uses. These were exhibited by the Tsumura Laboratory and the Experimental Farm of the Imperial Hygiene Laboratory.

In a shed in this garden is reproduced in miniature a piece of machinery for the disposal of rubbish. The rubbish is dried for six hours at a temperature of 100-120°C. Then it is assorted by removing the sand and soil and then it is pressed into bales and used as fuel.

RESOLUTIONS OF THE SIXTH CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE

The following resolutions were passed by the Congress in the General Meeting on October 17.

QUARANTINE LAWS

Whereas it has come to the attention of the Far Eastern Association of Tropical Medicine that a further revision of the Paris Convention is proposed:

1. The Far Eastern Association of Tropical Medicine, in convention assembled, expresses the hope that the representatives of the participating nations will agree on a simple and clear convention that will meet the requirements of all parts of the world, and that provision will be made to permit the countries in areas of like deeds to make subsidiary agreements which are in accord with the principles of the new Convention.

2. The Far Eastern Association of Tropical Medicine affirms that circumstances in the Far East require that cognizance be taken of conditions in all ports at which vessel touches, and of the facilities for combating quarantinable disease at such ports, as well as of the condition of a vessel on arrival.

3. The Far Eastern Association of Tropical Medicine believes that the regulation for plague, except for the pneumonic form, should be based on the principle of the rat-and-flea transmission of the disease.

BERIBERI

RESOLUTION URGING ORIENTAL COUNTRIES TO TAKE VIGOROUS MEASURE TO COMBAT BERIBERI AND ASK THE HEALTH SECTION OF THE LEAGUE OF NATIONS TO INCLUDE IT AMONG THE DISEASES AGAINST WHICH IT IS WARRING.

WHEREAS beriberi is known to prevail in many countries of the Far East;

WHEREAS there is enormous loss of life, with corresponding invalidism and disability due to deficient diet;

WHEREAS the deficiency may be corrected by the use of fresh under-milled rice or by the addition of accessory foods;

WHEREAS, notwithstanding extensive research work in many countries, nothing has been forwarded to controvert the disappearance of beriberi when an adequate diet is used;

WHEREAS a suitable test is desirable to determine the presence of sufficient vitamin B and accessory substances in rice; and

WHEREAS educational measures to promote the use of adequate diet are highly desirable; Now, therefore, be it

Resolved, That this Sixth Congress of Tropical Medicine considers it highly desirable that, where over-milled rice forms a staple diet, steps should be taken to discourage the use of rice from which essential food factors have been removed and that safe storage be provided for it, and furthermore that the use of accessory foods be encouraged;

Resolved, further, That the Far Eastern Association of Tropical Medicine considers beriberi a preventable disease and that each country be urged to take vigorous measures to combat its ravages;

Resolved, further, To ask the health section of the League of Nations to include beriberi among the diseases against which it is warring;

And resolved, finally, That governments encourage research toward developing a practical test for rice that may cause beriberi when used as a staple article of diet.

Adopted, October 17, 1926.

Then, on a motion by Dr. H. F. Guerin, the following resolution was added and likewise unanimously approved:

RESOLUTION RECOMMENDING THE CONTINUANCE OF THE BERIBERI COMMITTEE WHICH MAY COLLECT FACTS TO BE USED IN CLASSIFYING RICE IN ITS DIFFERENT STAGES IN THE PROCESS OF MILLING.

WHEREAS there is no definite understanding as to the classification of rice in its different stages during the process of milling; and

WHEREAS it is believed necessary that studies on beriberi be continued in the different Far Eastern countries; Therefore, be it

Resolved, To recommend that the Beriberi Committee be continued and that facts be collected which might be used in classifying rice in its different stages in the process of milling.

Adopted, October 17, 1926.

THE SASKATCHEWAN PLAN

"The Seymour plan, proposed by Dr. M. M. Seymour, Deputy Minister of Public Health for Saskatchewan, seems likely to have an important bearing on the death rates from preventable diseases.

The plan, which has already been endorsed by Public Health Officials Association of the United States and Canada, and by the Saskatchewan Medical Association, is to have the physicians, Department of Education, press, clergy and others educate the public as to how to prevent diphtheria, smallpox, and typhoid fever, with a campaign on each disease to be conducted during a specified period of each year.

It is true that these diseases are controllable by the use of immunizing measures and by specific cures, if caught sufficiently early in the progress of the disease, but the difficulty in the past has been to teach the general public to make use of these vaccines, antitoxins, and use them at the time when they would do the most good.

It is especially gratifying to know that a Saskatchewan public servant is responsible for a scheme of public health education that has been endorsed by an international organization, and there will no doubt be the best of coöperation various agencies concerned to see that Dr. Seymour's campaign in this province is made a success, with a resulting saving of human life and suffering.

It is Dr. Seymour's hope that in the course of a few years the plan will be so extensively applied and will be so responded to by the public that diphtheria, smallpox, and typhoid will cease to be menaces to human welfare. There can be no quarrel with that prospect."

PHILIPPINE HEALTH SERVICE
MANILA

NOVEMBER 17, 1926

SPECIAL ORDER }
No. 11 }

Paragraph 16. A parole committee on leprosy in the Culion Leper Colony is hereby created to examine and treat negative

lepers under parole in the Colony—this Committee to compose of the following:

The Chief, Culsion Leper Colony, Chairman

The Chief Physician, Member and

The Chief Pathologist, Member

The Committee will examine and administer the anti-leprotic treatment to lepers under parole and will submit its transactions to the Director of Health, from time to time. The issuance of parole certificate shall be governed by the regulations on the parole of lepers approved by the Honorable, the Secretary of Public Instruction on September 22, 1926, as amended.

(Sgd.) JACOBO FAJARDO

Director of Health

Approved:

(Sgd.) E. A. GILMORE

Secretary of Public Instruction

MISCELLANEOUS

MOVEMENT OF PERSONNEL

Dr. Eusebio D. Aguilar, chief, Division of Provincial Hospitals, Laboratories and Dispensaries, inspected the Occidental Negros Provincial Hospital.

District nurses Mercedes Corrales of the Province of Bulacan and Micaela Mendoza of the Province of Ilocos Sur, having completed the course in Public Health Nursing, Philippine General Hospital, Manila, returned to their respective stations to resume their duties.

Dr. Pedro A. Rodriguez, chief, Zamboanga General Hospital, has been ordered to report to the Central Office for conference with the Director of Health.

Medical Inspector Jesus A. Nolasco has been designated assistant district health officer of Laguna. Aside from his regular duties as assistant district health officer he is to render work in the Laguna Provincial Hospital after noon hours to assist the chief in his work.

Dr. Victorino de los Santos, district health officer of Batangas, has recently been in Manila for conference with the Director of Health and to obtain cholera vaccines for his prophylactic work in connection with the last typhoon.

ALBAY

Dr. Jose T. Chaves conducted a yaws campaign in the northern part of Catanduanes. Three hundred fifty-seven persons were injected with neosalvarsan in Viga; 166, in Pañganiban; and 880, in Pandan. Three hundred fifty persons were also given neosalvarsan injections in Virac (southern Catanduanes).

There were 837 children vaccinated in the municipality of Legaspi by the vaccinating party now operating in the province. The work is being carried on intensively.

ANTIQUE

Physical examination of the students of the Antique High School have been performed. The following defects have been found: six students with eye defects; five with tonsillitis, 12 having dental caries, six having poor nutrition, three having defective vision, and one having skin disease. Necessary treatment have been administered.

BATANGAS

District Inspector Florentino Ampil arrived on November 9 for inspection and to witness the area devastated by the typhoon. Dr. Gabriel Intengan, chief, Division of Provincial Sanitation and Dr. Leoncio Lopez-Rizal, chief, Division of Communicable Diseases with Sanitary Engineer Manuel Mañosa inspected the badly stricken areas on November 11.

In Batangas there were 3,743 persons injected with mixed vaccine, 3,049 with pure cholera vaccine; Bauan, 29 persons with mixed vaccine;

and 1,933 persons with pure cholera vaccine; Lobo, 103 persons with pure cholera vaccine; and Mabini, 123 persons with pure cholera vaccine. Necessary treatments were given to those who have been injured during the typhoon which visited the southern part of the province on November 6.

The above-mentioned vaccinations were performed as a preventive measure following the typhoon.

RIZAL

Clean-Up-Week has been carried on successfully. All the municipalities responded to the call, especially the municipality of Pasig. Sanitary condition of food stores have been found 80 per cent satisfactory; fences were repaired and painted. The sanitary condition of the province is good.

PERSONNEL

District nurse Dominga Sanchez was detailed at Morong Emergency Hospital and district nurse Julita B. Morales sent to Pasay.

SORSOGON

The municipalities of Putiao (Pilar), Gubat, Casiguran, and Juban were inspected for Clean-Up-Week. During the month 3,100 vaccinations against smallpox and 1,000 injections against cholera have been performed in the district. One hundred thirty-seven patients have been treated in the public dispensaries.

TAYABAS

During the recent typhoon that swept the province, the following casualties occurred: Unisan, 12 deaths, all drowned; five injured, and under treatment of President of the Sanitary Division; 40 per cent of the houses destroyed and those near the seashore completely destroyed. The office and records of the president, Sanitary Division dispensary book and one syringe out of commission; Gumaca, one Constabulary man, died of fracture of the skull and one drowned; Mauban, no deaths, two men of the Cavadonga steamer, missing; Calauag, two crushed and one drowned; Guinayañgan, one crushed; Lopez, one crushed and six drowned; Atimonan, three deaths, two crushed due to landslide, and one drowned.

ZAMBOANGA

The campaign for the extermination of mosquitoes in the City of Zamboanga and vicinity by the use of Paris green is being carried on.

VACCINATION

A campaign of anticholera and antityphoid vaccinations has been started in the City of Zamboanga and vicinity. This is also being carried on in the municipality of Isabela. A total of 218 vaccinations were performed last month.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of November, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	290,009
Spaniards.....	1,955
Other Europeans.....	1,128
Chinese.....	17,856
All others.....	2,186
Total.....	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I, MEISIC:	
1. Tondo.....	79,705
2. San Nicolas.....	28,792
3. Binondo.....	17,398
Total.....	125,895
No. II, SAMPALOC:	
4. Santa Cruz.....	51,565
5. Quiapo.....	15,658
6. San Miguel.....	4,377
7. Sampaloc.....	39,186
Total.....	110,786
No. III, PACO:	
8. Port Area.....	4,754
9. Intramuros.....	14,437
10. Ermita.....	15,931
11. Malate.....	16,259
12. Paco.....	15,830
13. Pandacan.....	5,785
14. Santa Ana.....	6,589
Total.....	79,585
Grand total.....	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATIONS, NOVEMBER, 1926**

Date	Pres- sure mean ¹	Temperature						
		In shade ¹					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.....	758.12	25.3	33.3	7	19.8	1	28.7	28.9
11-20.....	59.78	26.1	33.3	14, 18	21.0	16	28.9	29.0
21-30.....	60.09	25.4	31.9	23	20.6	30	28.7	28.8

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	84.8	89.5	5	79.8	1
11-20.....	80.9	90.0	12	75.3	15
21-30.....	83.6	90.5	24	75.5	26

Date	Prevailing direction	Wind			Atmidometer ² (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Kms.	Kms.		mm.	mm.	
1-10.....	NE quad	1,654.0	433.0	6	22.7	4.0	7
11-20.....	NE	1,232.0	170.5	20	27.5	4.4	15
21-30.....	NE quad	969.0	129.0	26	25.3	3.2	23, 29, 30

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	27 10	8 00	7	36.9	4
11-20.....	34 25	8 05	14, 15	7.3	4
21-30.....	29 50	7 05	30	6.4	4

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	2	4	6	23.31
Filipinos.....	650	626	1,276	53.87
Spaniards.....	2	5	7	43.89
Other Europeans.....	4	1	5	54.06
Chinese.....	37	28	65	44.32
All others.....	1	2	3	16.71
Total and average.....	696	666	1,362	52.43

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimizes			Illegitimizes			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MEJIC:							
1. Tondo.....	175	164	339	6	14	20	359
2. San Nicolas.....	39	35	74	5	3	8	82
3. Binondo.....	24	19	43	2	3	5	48
Total.....	238	218	456	13	20	33	489
No. II, SAMPALOC:							
4. Santa Cruz.....	90	88	178	10	9	19	197
5. Quiapo.....	26	24	50	1	3	4	54
6. San Miguel.....	15	11	26	1	1	2	28
7. Sampaloc.....	96	114	210	5	4	9	219
Total.....	227	237	464	17	17	34	498
No. III, PAGO:							
8. Port Area.....	2	2	4				4
9. Intramuros.....	24	20	44	1		1	45
10. Ermita.....	28	30	58	3	1	4	62
11. Malate.....	71	59	130	3	1	4	134
12. Pao.....	38	32	70	2	3	5	75
13. Pandacan.....	10	8	18	2		2	20
14. Santa Ana.....	17	16	33		2	2	35
Total.....	190	167	357	11	7	18	375
Grand total.....	655	622	1,277	41	44	85	1,362

Attended by physicians, living, 395; stillbirths, 20.

Attended by midwives, living, 109; stillbirths, 1.

Attended by families, living, 858; stillbirths, 20.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA

BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	3	1	4	15.54
Filipinos.....	278	273	551	23.13
Spaniards.....	1	1	2	12.45
Other Europeans.....	2		2	21.62
Chinese.....	18	5	23	15.68
All others.....				
Total and average.....	302	280	582	22.40

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I, MESEIC:			
1. Tondo.....	98	90	188
2. San Nicolas.....	21	18	39
3. Binondo.....	10	6	16
Total.....	129	114	243
No. II, SAMPALOC:			
4. Santa Cruz.....	50	45	95
5. Quiapo.....	8	6	14
6. San Miguel.....	5	3	8
7. Sampaloc.....	49	39	88
Total.....	112	93	205
No. III, PACO:			
8. Port Area.....		1	1
9. Intramuros.....	11	7	18
10. Ermita.....	9	6	15
11. Malate.....	18	35	53
12. Paco.....	8	10	18
13. Pandacan.....	6	4	10
14. Santa Ana.....	9	10	19
Total.....	61	73	134
Grand total.....	302	280	582

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF
MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	116	87
Divorced.....		
Widowed.....	24	41
Single.....	213	181
Conditions not stated.....	1	3
Total.....	354	312
Grand total.....	666	

Stillbirths.....	41
Number of deaths with medical attendance.....	441
Number of deaths without medical attendance.....	225

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year.....	104	72	6	5	187
1 year plus.....	31	31	2	4	68
2 years plus.....	12	13	2		27
3 years plus.....	1	5	5		11
4 years plus.....	2	2		2	6
5 years to 9 years.....	6	10	2	4	22
10 years to 14 years.....	5	6	3	2	16
15 years to 19 years.....	4	10	3	2	19
20 years to 24 years.....	13	14	4	1	32
25 years to 29 years.....	13	15	4	1	33
30 years to 34 years.....	11	10	4		25
35 years to 39 years.....	13	16	3	2	34
40 years to 44 years.....	13	14	3	1	31
45 years to 49 years.....	11	6		2	19
50 years to 54 years.....	13	9	5	2	29
55 years to 59 years.....	11	6	2	2	21
60 years to 64 years.....	15	13	2		30
65 years to 69 years.....	3	7	1		11
70 years to 74 years.....	9	5	1	1	16
75 years to 79 years.....	7	2		1	10
80 years to 84 years.....	2	7			9
85 years to 89 years.....	1	2			3
90 years to 94 years.....		1			1
95 years to 99 years.....	2	3			5
100 years and over.....					
Age not stated.....		1			1
Total.....	302	280	52	32	666

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1-42	<i>I. Epidemic, endemic, and infectious diseases</i>													
1	Typhoid and paratyphoid fever:													
5	a. Typhoid fever.....			3						1				4
7	Malaria:													
10	a. Malarial fever.....			2	1									3
11	Measles.....			1	1									1
16	Diphtheria.....				4									5
31	Influenza:													
32	a. With pulmonary complications specified									1				1
43-69	b. Bacillary.....			1	1									
47	Tuberculosis of the respiratory system.....			3	3	1								2
49	Tuberculosis of the meninges and central nervous system.....			1	1	1								7
55	<i>II. General diseases not included in Class I</i>													2
56	Cancer and other malignant tumors of the breast.....						1							1
57	Cancer and other malignant tumors of other or unspecified organs.....			1										1
62	Beriberi:													
70-86	a. Infants.....			1	2									3
71	Rickets.....			1										1
74	Diabetes mellitus.....									1				1
87-96	Diseases of the thymus gland.....			1										1
88	<i>III. Diseases of the nervous system and of the organs of special sense</i>													
90	Meningitis:													
91	a. Simple meningitis.....			1										1
92	Cerebral hemorrhage, apoplexy:													
93	a. Cerebral hemorrhage.....				1									1
94	<i>IV. Diseases of the circulatory system</i>													
95	Endocarditis and myocarditis (acute).....				1									1
96	Other diseases of the heart.....				1									1

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough					1	1
11. Influenza:						
a. With pulmonary complications specified					1	1
16. Dysentery:						
b. Bacillary					2	2
c. Unspecified or due to other causes					1	1
21. Erysipelas					1	1
29. Tetanus:						
a. Umbilical				10		10
32. Tuberculosis of the meninges and central nervous system					1	1
36. Tuberculosis of other organs:						
c. Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted)				1		1
55. Beriberi:						
a. Infants	2	1		9	34	46
56. Rickets					1	1
69. Other general diseases				1		1
71. Meningitis						
a. Simple meningitis					4	4
b. Nonepidemic cerebrospinal meningitis					1	1
88. Endocarditis and myocarditis (acute)					1	1
99. Bronchitis:						
a. Acute					23	23
b. Chronic					2	2
100. Bronchopneumonia:						
a. Bronchopneumonia					21	21
b. Capillary bronchitis					2	2
101. Pneumonia:						
a. Lobar					1	1
103. Congestion and hemorrhagic infarct of the lung				1		1
113. Diarrhea and enteritis					11	11
128. Acute nephritis					2	2
153. Acute abscess					1	1
154. Other diseases of the skin and annexa					1	1
159. Congenital malformations (stillbirths not included):						
c. Others under this title	1			1		2
160. Congenital debility, icterus, and sclerema	17	2		7	1	27
161. Premature birth; Injury at birth:						
a. Premature birth (not stillborn)	8	1		4		13
162. Other diseases peculiar to early infancy	1		1	5		7
200. Infanticide (murder of infants less than 1 year of age)	1					1
Total	30	4	1	39	113	187

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set	21,570
Number of rats caught by spring traps	2,874
Number of cage wire traps set	660
Number of rats caught by cage wire traps	8
Number and kind of baits (coconuts)	22,286
Number of poison portions placed	12,742
Number of rats found poisoned	253
Number of rats killed by clubs and other weapons	980
Number of rats found dead from other causes	562
Total number of rats otherwise caught, found dead or killed	4,672
Total number of rats sent to the laboratory for examination	4,672
Total number of rats found positive for plague	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF NOVEMBER, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I. { No. 1. No. 2. No. 3. No. 4. No. 5. No. 6. No. 7. No. 8. No. 9. No. 10. No. 11. No. 12. No. 13. No. 14.	1	.....	2	1	.....	.....	.....	.....	1	.....	2	1	3	1
II. { No. 1. No. 2. No. 3. No. 4. No. 5. No. 6. No. 7. No. 8. No. 9. No. 10. No. 11. No. 12. No. 13. No. 14.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III. { No. 1. No. 2. No. 3. No. 4. No. 5. No. 6. No. 7. No. 8. No. 9. No. 10. No. 11. No. 12. No. 13. No. 14.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total.	6	.....	3	3	.....	.....	.....	.....	8	2	8	3	16	6

REMARKS:

Cases confirmed as typhoid fever.....

Cases confirmed as paratyphoid fever.....

By autopsy.....

By blood culture.....

By urine examination.....

By feces examination.....

By clinical symptoms.....

Cases reported among nonresident persons not included in the table.....

Deaths reported among nonresident persons not included in the table.....

Typhoid carrier—None.

16
010
4

DYSENTERIES REPORTED DURING THE MONTH OF NOVEMBER, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths				
No. 1.....	4	4	3	2	8	8	2	2	12	12	9	4	21	16
No. 2.....														
No. 3.....														
No. 4.....			2		1				1		2		3	
No. 5.....														
No. 6.....														
No. 7.....	1	1	1	1	2	2	1	1	3	1	3	2	6	3
No. 8.....														
No. 9.....	1		1						1		1		2	
No. 10.....														
No. 11.....														
No. 12.....														
No. 13.....														
No. 14.....														
Grand total.....	6	5	7	3	11	8	9	4	17	13	16	7	33	20

REMARKS:

Amoebic dysentery.....

Bacillary dysentery.....

Unspecified.....

Cases reported among non-resident persons not included in the table.....

Deaths reported among non-resident persons not included in the table.....

Dysentery carrier—None.

2

11

20

5

2

CHOLERA REPORTED DURING THE MONTH OF NOVEMBER, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital.						Home						Total				Grand total	
	Male			Female			Male			Female			Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Cases	Deaths	Cases	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I..	No. 1.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 2.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 3.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 4.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II..	No. 5.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 6.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 7.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 8.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 9.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 10.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.	No. 11.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 12.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 13.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 14.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total.....																		.....

REMARKS:
 No non-resident case was reported during the month.

Cholera carrier—25

DIPHTHERIA REPORTED DURING THE MONTH OF NOVEMBER, 1926, CITY OF MANILA
CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
I. { No. 1 No. 2 No. 3	1		1						1		1		2	
II. { No. 4 No. 5 No. 6 No. 7	1		1	1					1		1	1	2	1
III. { No. 8 No. 9 No. 10 No. 11 No. 12 No. 13 No. 14														
Total..	3		3	1					3		3	1	6	1

REMARKS:

Cases reported among non-resident persons not included in the table.....

Deaths reported among non-resident persons not included in the table.....

Diphtheria carrier—1

6

5

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	16	5	2	2
Varicella.....	2	1		
Varioloid.....				
Smallpox.....				
Measles.....	4	1		
Whooping cough.....	2	1	2	1
Influenza.....	7	4	1	
Bubonic plague.....				
Encephalitis lethargica.....	1	1	1	1
Meningitis cerebrospinal epidemic.....	1		1	
Pulmonary tuberculosis.....	180	148	62	60
Tuberculosis of all forms.....	9	6	9	6
Beriberi, infantile.....	26	17	26	17
Beriberi, adult.....	2	3	2	1

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	20	8	2	1
Varicella.....	3			
Varioloid.....				
Smallpox.....				
Measles.....		1		1
Whooping cough.....				
Influenza.....	1		1	
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....	1			
Pulmonary tuberculosis.....	24	16	4	3
Tuberculosis of all forms.....	1	1	1	1
Beriberi, infantile.....	1	2	1	2
Beriberi, adult.....				

**REPORT ON THE DISTRIBUTION OF ASSORTED SERA AND VACCINES
FOR THE MONTH OF NOVEMBER, 1926**

Sera and vaccines	On hand November 1, 1926	Received during the month	Total to be accounted for	Distributed during the month	Remaining at the end of the month
Anti-diphtheric serum (units).....	820,000		820,000	200,000	620,000
Anti-dysenteric serum (ampoules).....	63	100	163	20	143
Anti tetanic serum (units).....	285,000		285,000		285,000
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	26,950	65,000	91,950	91,900	50
Dried vaccine virus (units).....	112,100	100,000	212,100	79,200	132,900
Fresh vaccine virus (units).....	220,100	200,000	420,100	165,400	254,700
Gonococcus vaccine (ampoules).....		105	105	60	45
Mixed typhoid-cholera vaccine (c.c.).....	49,560	80,000	129,560	90,000	39,560
Normal horse serum (ampoules).....					
Typhoid vaccine (c.c.).....	7,700	18,000	25,700	14,600	11,100

REPORT OF ANTI-SMALLPOX VACCINATION IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1926

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated						Total		
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over				
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Positive		Negative	
No. 1.	Tondo.	411	334	1	76	351	29	40	6	2	11	393	46
	San Nicolas.	41	33	1	7	68	2					68	2
	Binondo.	397	104	288	5	23	4					24	7
	Santa Cruz.	786	82	690	14	133	7	1		108	283	242	290
	Quiapo.	26	25		1	30	1					30	1
No. 2.	San Miguel.	8	7		1	11	2					11	2
	Sampaloc.	362	263	5	94	280	18	79	12	8	12	367	42
	Port Area.	3	3			3						3	
	Intramuros.	118	115	3	3	87	2	1				88	2
	Ermita.	77	75	2	2	70	2					70	2
No. 3.	Malate.	148	106		42	93	25	12	1	2	2	107	28
	Paco.	82	73	4	5	74	4	1				75	4
	Pandacan.	40	38		2	29	2					29	2
			29			27	2					27	2
	Santa Ana.												
Total.		2,528	1,287	989	252	1,279	100	134	19	121	311	1,534	430

Vaccine virus:

Received.....	12,300
Used.....	6,150
Remained.....	6,150

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1926¹

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Health districts	Municipal districts	Number of injections made in—												Total number of injections					
		Adults						Children						First			Second		
		First injections			Second injections			Third injections			First injections			Second injections			Third injections		
		V.	R.		V.	R.		V.	R.		V.	R.		V.	R.		V.	R.	
No. 1.	Tondo.....	461	324	193	266	203	105	727	527	298									
	San Nicolas.....	672	688	614	304	645	615	976	1,056	1,259									
	Binondo.....	3,852	622	476	3	932	718	3	4,781	1,825									
	Santa Cruz.....	1,265	973	1,171	468	251	337	1,733	1,224	1,511									
	Quaspo.....	361	176	25	8	23	45	369	219	70									
No. 2.	San Miguel.....	27	54	90	27	74	107	51	128	197									
	Sampaloc.....	2	1,539	2	514	613	19	15	8,109	2,152									
	Port Area.....	390	898	1,381	15	41	45	45	605	939									
	Intramuros.....	817	702	773	3	5	61	817	707	840									
	Ermita.....	197	276	304	3	13	10	200	289	311									
No. 3.	Malate.....	910	926	657	29	412	17	29	1,272	30									
	Paco.....	5,517	527	186	12	269	6	12	5,786	4									
	Pandacan.....																		
	Santa Ana.....																		
Total.....		2	22,234	3	7,705	2	7,906	57	3,198	63	3,321	42	3,340	59	25,432	66	11,256	44	11,246

¹ Mixed typhoid and cholera vaccine used for the first and second injections.

Typhoid and paratyphoid vaccine used for the third injections.

V. in persons never vaccinated before; R. revaccinations.

ANTI-DYSENTERY VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF NOVEMBER, 1926

552

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.....	Tondo.....	72	66	37	22	109	88
	San Nicolas.....	10	3	4	2	14	5
	Binondo.....						
	Santa Cruz.....	9	26	15	17	24	43
	Quiapo.....						
No. 2.....	San Miguel.....						
	Sampaloc.....	24	16	12	15	36	31
	Port Area.....						
	Intramuros.....	10		2		12	
	Ermita.....						
No. 3.....	Malate.....						
	Paco.....	4		1		5	
	Pandacan.....						
	Santa Ana.....						
	Total.....	129	111	71	56	200	167

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1924¹**

Provinces	Total vac- cinations	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuc- cessfully
Abra.....	35,944	4,839	19,459	11,646
Agusan.....	11,538	2,457	4,993	4,088
Albay.....	43,604	12,744	5,553	25,307
Antique.....	106,548	17,080	59,479	29,989
Bataan.....	11,771	4,338	3,765	3,668
Batanes.....	4,355	634	1,081	2,640
Batangas.....	55,765	12,930	18,236	21,599
Bohol.....	44,799	10,289	15,190	19,320
Bukidnon.....	4,015	1,056	1,211	1,748
Bulacan.....	54,594	10,418	34,203	9,973
Cagayan.....	31,985	6,802	12,546	12,637
Camarines Norte.....	58,060	7,882	37,852	12,326
Camarines Sur.....	83,852	11,933	50,507	21,412
Capiz.....	87,269	22,825	47,976	16,468
Catanduanes.....	13,809	2,486	3,146	8,177
Cavite.....	31,767	6,031	15,970	9,766
Cebu.....	121,495	36,678	27,555	57,262
Cotabato.....	23,260	7,460	7,332	8,468
Davao.....	18,679	4,410	9,191	5,048
Ilocos Norte.....	36,518	7,579	12,366	16,573
Ilocos Sur.....	38,400	7,878	7,476	23,046
Iloilo.....	113,467	35,806	51,562	26,099
Isabela.....	112,827	27,682	70,818	14,297
Laguna.....	31,819	8,386	15,899	10,534
Lanao.....	5,498	1,379	2,678	1,441
La Union.....	31,326	5,849	1,353	24,124
Leyte.....	51,139	19,476	4,586	27,077
Marinduque.....	11,920	2,074	4,056	5,790
Masbate.....	12,478	3,754	2,779	5,945
Mindoro.....	59,879	13,338	35,396	11,145
Misamis.....	109,282	18,335	58,330	32,617
Mountain Province.....	40,914	9,742	21,588	9,584
Nueva Ecija.....	42,270	11,887	10,142	20,241
Nueva Vizcaya.....	12,686	1,261	7,706	3,719
Occidental Negros.....	41,568	22,811	7,180	11,577
Oriental Negros.....	37,071	9,882	12,886	14,303
Palawan.....	4,458	2,408	1,642	408
Pampanga.....	48,697	8,157	22,225	18,315
Pangasinan.....	77,648	19,115	18,637	39,896
Rizal.....	114,412	19,685	82,040	12,687
Romblon.....	30,220	6,338	17,360	6,522
Samar.....	157,931	30,427	88,213	39,291
Sorsogon.....	28,954	12,124	2,777	16,553
Sulu.....	11,509	5,806	2,677	3,026
Surigao.....	41,537	12,221	16,144	13,172
Tarlac.....	31,708	5,996	19,417	6,295
Tayabas.....	22,882	12,806	9,474	1,102
Zambales.....	11,036	2,392	2,976	5,667
Zamboanga.....	12,956	2,833	4,792	5,331
Total.....	2,229,118	530,249	987,950	710,919

¹Incomplete; reports from other provinces not yet received.

Vaccinations performed by the vaccinating parties are included in the above table.

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926¹—Continued**

Provinces	Inspections of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	980	493	5,213	1,826	13,267	7,746	19,460	10,065
Agusan.....	375	181	743	314	2,086	2,432	2,186	2,927
Albay.....	4,627	1,285	4,684	1,307	5,615	2,965	14,926	5,557
Antique.....	3,610	868	9,600	5,403	23,897	32,100	37,107	38,371
Bataan.....	2,099	421	3,439	1,285	2,406	1,252	7,944	2,958
Batanes.....	405	163	857	366	1,516	690	2,778	1,219
Batangas.....	5,244	817	10,355	3,271	12,724	10,530	28,323	14,618
Bohol.....	5,374	1,682	6,747	3,157	12,544	10,548	24,665	15,387
Bukidnon.....	81	42	175	173	1,168	913	1,424	1,128
Bulacan.....	5,837	889	6,756	2,857	18,497	13,600	31,096	17,346
Cagayan.....	2,500	612	5,103	1,486	11,291	8,463	18,894	10,561
Camarinés Norte.....	1,873	279	5,352	1,122	22,090	10,925	29,315	12,326
Camarinés Sur.....	4,608	1,262	9,245	2,495	30,417	13,695	44,270	17,453
Capiz.....	4,282	989	8,958	2,386	34,830	16,152	48,070	19,527
Catanduanes.....	11,321	617	1,545	821	2,289	1,407	15,155	2,845
Cavite.....	5,190	560	4,068	1,042	13,781	6,925	23,039	8,527
Cebu.....	10,258	4,078	11,319	4,233	16,769	14,920	38,346	23,231
Cotabato.....	351	232	1,282	876	4,798	3,764	6,431	4,872
Davao.....	397	177	1,238	810	4,272	5,074	5,907	6,061
Ilocos Norte.....	3,575	893	7,658	2,178	9,163	9,785	20,396	12,856
Ilocos Sur.....	5,893	1,410	6,573	2,610	7,171	7,612	19,637	11,632
Iloilo.....	7,034	799	15,600	3,265	33,497	19,969	56,131	24,033
Isabela.....	2,233	628	9,739	2,865	29,100	22,385	41,072	25,878
La Laguna.....	4,087	980	3,850	2,097	8,862	11,725	16,799	14,802
Lanao.....	109	17	218	63	754	510	1,081	590
La Union.....	3,024	957	3,939	3,155	4,055	6,533	11,018	10,645
Leyte.....	2,926	1,073	6,428	2,303	9,278	3,583	18,632	6,959
Marinduque.....	681	201	1,458	569	3,790	2,328	5,929	3,098
Masbate.....	863	294	1,532	820	3,318	2,506	5,713	3,620
Mindoro.....	1,496	260	5,529	887	23,177	10,326	30,202	11,473
Misamis.....	2,162	641	9,231	2,400	37,669	17,470	49,062	20,511
Mountain Province.....	952	595	3,506	1,652	7,340	7,110	11,798	9,357
Nueva Ecija.....	5,183	1,041	8,424	2,655	10,860	8,507	24,472	12,203
Nueva Viscaya.....	514	72	1,476	624	5,303	5,553	7,293	6,249
Occidental Negros.....	7,138	1,541	8,980	2,438	8,698	3,459	24,816	7,438
Oriental Negros.....	3,507	1,290	5,262	2,450	10,173	5,899	18,942	9,639
Palawan.....	151	35	262	76	1,090	692	1,503	803
Pampanga.....	3,196	719	4,094	1,521	10,966	9,283	18,256	11,523
Pangasinan.....	10,413	2,807	15,270	5,230	21,110	19,776	46,793	27,813
Rizal.....	6,546	1,281	10,345	4,169	21,183	31,310	38,074	36,760
Romblon.....	1,160	215	3,123	696	9,029	5,482	13,312	6,393
Samar.....	5,436	1,678	19,383	5,193	57,943	23,520	82,762	30,391
Sorsogon.....	2,396	1,054	5,259	2,266	5,661	2,814	13,316	6,184
Sulu.....	489	133	2,009	578	4,012	1,729	6,510	2,440
Surigao.....	980	507	3,012	2,168	8,768	10,818	12,760	13,493
Tarlac.....	2,913	1,016	4,481	2,052	6,763	10,048	14,157	13,116
Tayabas.....	3,588	918	6,147	1,697	12,159	6,746	21,844	9,361
Zambales.....	1,170	280	1,712	1,041	2,654	3,859	5,536	5,180
Zamboanga.....	643	435	895	806	2,419	3,302	3,957	4,543
Total.....	159,820	39,417	272,074	95,755	610,209	438,740	1,042,108	573,912

¹ Incomplete; reports from other provinces not yet received.

Vaccinations performed by the vaccinating parties are included in the above table.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	38,208	3,254		41,462
Antique.....	20,282	6,574		26,856
Bataan.....	25,222	1,616		26,838
Batanes.....				
Batangas.....	176,729	11,731		188,460
Bohol.....	230	222		452
Bukidnon.....	140,407	17,937		158,344
Bulacan.....				
Cagayan.....	576	268		844
Camarines Norte.....	40,208			40,208
Camarines Sur.....	91,946			91,946
Capiz.....	5,715	2,146		7,861
Catanduanes.....				
Cavite.....	24,748			24,748
Cebu.....	3,519	87		3,606
Cotabato.....				
Davao.....	915	530		1,445
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	71,489	8,660		80,149
Isabela.....	14	14		28
Laguna.....	103,774	20,616	1,164	125,554
Lanao.....				
La Union.....	4,296	1,553		5,849
Leyte.....	44,169	21,762		65,931
Marinduque.....	49,155	44,864	5,087	99,106
Masbate.....	3,305	1,136		4,441
Mindoro.....	26,913	9,008	2,005	37,926
Misamis.....				
Mountain Province.....				
Nueva Ecija.....	33,942			33,942
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....	40	43		83
Palawan.....				
Pampanga.....	166,450	6,693		173,143
Pangasinan.....	270,351	50,882		321,233
Rizal.....	182,383	13,960		196,343
Romblon.....	11,150	5,853		17,003
Samar.....	4,927	1,519		6,446
Sorsogon.....	7,811	56		7,867
Sulu.....	1	1		2
Surigao.....				
Tarlac.....	19,648	14,873		34,521
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	1,576,826	245,858	8,256	1,830,940

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-TYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....	536			536
Albay.....	344	169	100	613
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	354	272	10	636
Bohol.....				
Bukidnon.....				
Bulacan.....	485	257	227	969
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....	758	931		1,689
Catanduanes.....	777	254	10	1,041
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....				
Isabela.....				
Laguna.....	1,289	625	253	2,167
Lanao.....				
La Union.....	1,377	333	248	1,958
Leyte.....				
Masbate.....	664	166		830
Mindoro.....				
Misamis.....				
Mountain Province.....	82	36		118
Nueva Ecija.....				
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	2,775	1,061	246	4,082
Pangasinan.....	1,018	614	193	1,825
Rizal.....				
Romblon.....				
Samar.....				
Sorsogon.....	898			898
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	11,357	4,718	1,287	17,362

¹ Incomplete; reports from other provinces not yet received.

CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND CHOLERA) VACCINE RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹

Provinces	First injections	Second injections	Third injections	Total
Abra	4,502	4,564		9,066
Agusan	9,082	2,494		11,576
Albay	27	33		60
Antique	9,249	2,289		11,538
Bataan	240	153		393
Batanes	180	168		348
Batangas	630	120		750
Bohol	2,585	2,177		4,762
Bukidnon				
Bulacan	3,389	794		4,183
Cagayan	5,311	2,498		7,809
Camarines Norte	4,511	3,358		7,869
Camarines Sur	5,938	2,942		8,880
Capiz	14,549	5,670		20,219
Catanduanes				
Cavite	14,028	3,648		17,676
Cebu	52,893	10,383		63,276
Cotabato	842	166		1,008
Davao	1,864	868		2,732
Ilocos Norte	30,396	6,403	1,150	37,949
Ilocos Sur	3,140	2,440		5,580
Iloilo	17,951	4,431		22,382
Isabela	322	252		574
Laguna				
Lanao	5,696	1,123		6,819
La Union	3,349	2,317		5,666
Leyte	14,365	6,745		21,110
Marinduque	528	102		630
Masbate	2,167			2,167
Mindoro				
Misamis	2,805	647		3,452
Mountain Province	1,717	93		1,810
Nueva Ecija	856	409		1,265
Nueva Vizcaya	2,686	1,873		4,559
Occidental Negros	57,854	45,578		103,432
Oriental Negros	4,778	2,394		7,172
Palawan				
Pampanga	7,752	2,662		10,414
Pangasinan	143	99		242
Rizal	12,086	2,007	251	14,344
Romblon	11	9		20
Samar	2,533	1,834		4,367
Sorsogon	1,707	201		1,908
Sulu				
Surigao	749	749		1,498
Tarlac	31,355	17,118		48,473
Tayabas	48,838	19,619		68,457
Zambales	9,263	8,617		17,880
Zamboanga	4,576	789		5,365
Total	397,443	170,836	1,401	569,680

¹ Incomplete; reports from other provinces not yet received.

SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF NOVEMBER, 1926

(No case and no death reported during the month)

CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH OF NOVEMBER, 1926

(No case and no death reported during the month)

**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF NOVEMBER, 1926**

	Health districts			
	No. 1 Meisic	No. 2 Sampa- loc	No. 3 Paco	Total
Orders pending November 1, 1926:				
Minor.....	163	291	114	568
Sewer.....	25	51	1	77
Vacating.....	8	12	.....	20
Filling.....	10	35	19	64
Total.....	206	389	184	729
Orders issued during the month:				
Minor.....	27	29	9	65
Sewer.....	1	.....	.....	1
Vacating.....	.....	.....	.....	.....
Filling.....	.....	.....	.....	.....
Total.....	28	29	9	66
Orders completed during the month:				
Minor.....	82	45	12	89
Sewer.....	.....	1	.....	1
Vacating.....	.....	.....	.....	.....
Filling.....	.....	.....	.....	.....
Total.....	82	46	12	90
Orders cancelled during the month:				
Minor.....	4	1	1	6
Sewer.....	.....	1	.....	1
Vacating.....	.....	1	.....	1
Filling.....	.....	.....	.....	.....
Total.....	4	3	1	8
Orders pending, November 30, 1926:				
Minor.....	154	274	110	538
Sewer.....	26	49	1	76
Vacating.....	8	11	.....	19
Filling.....	10	35	19	64
Total.....	198	369	130	697
Strong material plans approved:				
New buildings including additions and alterations.....	24	40	45	109
Permits for minor building constructions:				
Approved.....	17	38	19	74
Disapproved.....	6	4	2	12
New buildings completed.....	14	16	28	58
Permits for light and mixed material constructions:				
Approved.....	19	35	18	72
Disapproved.....	4	3	2	9
Prosecutions:				
Convictions.....	.....	.....	.....	.....
Dismissals.....	.....	.....	6	6
Amount of fines.....	.....	.....	.....	.....
Plumbing permits issued.....	33	47	42	122
Plumbing projects completed.....	48	99	53	200
Premises connected to the sanitary sewer to October 31, 1926	2,491	4,252	631	7,374
Connected during the month.....	4	7	14	25
Total.....	2,495	4,259	645	7,399

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS
DEPARTMENT OF PUBLIC INSTRUCTION

MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

DECEMBER, 1926

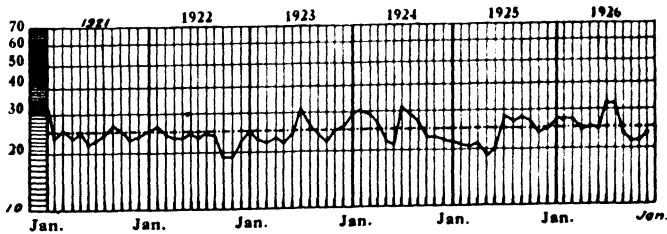
No. 12

ENTERED AT THE MANILA POST OFFICE AS SECOND-CLASS MATTER

Germs, says the United States Public Health Service, are usually a hand to mouth affair. Better wash up.



ANNUAL DEATH RATES BY MONTH, CITY OF MANILA



----- Average death rate for the last five years.

MANILA
BUREAU OF PRINTING
1927

PHILIPPINE HEALTH SERVICE

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MONTHLY BULLETIN
OF THE
PHILIPPINE HEALTH SERVICE

VOL. VI

DECEMBER, 1926

No. 12

**A REPORT OF AN UNIDENTIFIED MICROORGANISM
ISOLATED FROM CASES OF ACUTE VEGETATIVE
ENDOCARDITIS AMONG LEPERS IN CULION.¹**

[WITH BRIEF MENTION OF CLINICAL ASPECTS]

By FILIBERTO SOLIS, M.D.

*Former Assistant Pathologist, Culion Leper Colony
Bacteriologist, Zamboanga Central Laboratory
Philippine Health Service*

[Abstract]

An unidentified microorganism was isolated from twelve cases of the 27 that had acute bacterial endocarditis within a period of three and a half years at Culion Leper Colony. Clinically the disease is characterized by chills, septic fever, slight icterus and, in the later stages, by embolic phenomena. In the first week the condition may be mistaken for malaria but the latter can easily be ruled out by the absence of the parasites in the blood and by the presence of marked hyperleucocytosis. The disease has invariably proved fatal in from two to four weeks.

The organism can easily be cultured from the patient and, at autopsy, from the vegetations on the affected valves of the heart. Morphologically, it is a short plump bacillus (2 x 0.8 micron) with a uniform body and rounded ends. It may appear singly, or in twos, or in long chains. It is non-motile, Gram negative, and non-spore bearing. It grows best on media containing blood or hemoglobin, and apparently is related to the family of "hemophilæ," differing from the only 3 groups recognized by the C. S. A. B. in that it especially affects the

¹ The original paper was read in the Annual Meeting of the Philippine Islands Medical Association, Manila, December 10, 1926, with the permission of the Director of Health.

valves of the heart and not the respiratory system, conjunctiva, or genital organs. (Committee of the Society of American Bacteriologists.) Definite antibodies (agglutinins) in the serum of the patients have been demonstrated.

In every case where the organism had been isolated from the blood, an acute vegetative endocarditis was always found, either at the mitral alone, or at both aortic and mitral, or, more rarely, at the tricuspid alone.

In the autopsy of the cases the portal of entry has never been demonstrated.

Experimental inoculations to monkeys, rabbits, and guinea pigs have failed to reproduce the disease even with massive doses.

Whether or not this unidentified organism which has been frequently found in a great majority of the fatal cases of endocarditis among the lepers in Culion is a new pathogen which remains to be further studied.

A PRELIMINARY STUDY OF THE INCIDENCE AND MORTALITY FROM TUBERCULOSIS AMONG THE LEPERS IN CULION.

By Dr. TEOFILO CORPUS and Mr. EMILIO GUERRA

Philippine Health Service

The object of this paper is to give an idea of the incidence and mortality from tuberculosis among the lepers in Culion as compared with that in the provinces and Manila. It is scarcely necessary to state, however, that the Culion Leper Colony is a locality inhabited entirely by a sick population in contrast to the "normal" population of the provinces and Manila. The data to be presented are offered merely as observations; and no attempt has been made to assign a definite explanation for the marked prevalence of tuberculosis observed among lepers.

The data on the incidence of tuberculosis in Culion on which this paper is based were obtained from the semestral reports and individual treatment record cards sent to the central office by the Medical Section of the Colony, embracing the period from March, 1922, to March, 1926, and those of mortality from the office of vital statistics of the Philippine Health Service. The records of 3,193 clinic patients and 1,354 dispensary patients have been studied as well as the annual mortality for the last five years from 1921-1925.

Of the clinic patients, a total of 136 patients, or 4.2 per cent were found during the last six months from September, 1925, to March, 1926, suffering from pulmonary tuberculosis, (other forms of tuberculosis not included). Of these, 90, or 66.18 per cent, were males and 46, or 33.82 per cent, were females. These figures show that tuberculosis in Culion is apparently more frequent among the male than among the female patients. This, however, is not true, for there are only one-half as many female as there are male patients, so that the incidence in relation to number of lepers of each sex would be about the same for both sexes.

An analysis of the frequency of tuberculosis among the clinic patients classified as to age is given in the following table:

TABLE I.—*Incidence of Tuberculosis classified as to ages among clinic patients*

Ages	Number of cases	Percent-age	Ages	Number of cases	Percent-age
Years			Years		
10-15.....	1	0.03	41-45.....	12	0.38
16-20.....	9	0.28	46-50.....	8	0.25
21-25.....	27	0.85	51-55.....	8	0.25
26-30.....	24	0.75	56-60.....	6	0.19
31-35.....	19	0.60	61-65.....	3	0.09
36-40.....	17	0.53	66 and over.....	2	0.06

The highest incidence shown in Table I is between the ages of 21 and 30. The incidence of tuberculosis in relation to the number of lepers for each age-group has not been considered. It should be a more important consideration than the incidence in relation to the total number of clinic patients. If there are few young or old patients, naturally the absolute incidence will be low.

A tabulation of the mortality from tuberculosis according to the same age-groups has shown that the highest mortality occurred from 25 to 39 years of age.

An analysis of 1,354 dispensary patients who developed tuberculosis after undergoing treatment for sometime reveals the following:

TABLE II.—*Dispensary leper patients who developed tuberculosis after treatment*

Length of treatment	Number of lepers	Percentage
At one-half year.....	152	11.23
At One year.....	53	3.91
At one and one-half year.....	40	2.95
At two years.....	61	4.51
At two and one-half year.....	15	1.11
At three years.....	9	0.66
At three and one-half years.....	3	0.22
Total.....	333	24.59

In considering these figures, it should be stated, however, that in 1922 many of the unsuitable cases (tuberculosis, etc.) were deliberately given treatment in accordance with the policy of extending this to all patients. During the last three or four years careful selection has been made before giving the treatment; furthermore, all patients who have developed tuberculosis during the course of treatment were dropped from the list of clinic patients and were placed in the dispensary group.

Summing up the prevalence of tuberculosis among the clinic and dispensary patients in Culion, there was, from the time the treatment was begun in 1922, and so far as record shows, a total of 84 patients, or 1.89 per cent admitted in the Culion Leper Colony, who were admitted with tuberculosis, and 469 patients or 10.31 per cent in whom the disease became manifest after undergoing treatment. Whether this is due to the anti-leprotic drugs administered or to the low vitality of these leper patients, nothing can be advanced as yet.

Under the different drugs used, the incidence of tuberculosis is as follows:

TABLE III.—*Incidence of tuberculosis under different drugs among clinic patients*

Drugs	Number of cases	Percentage
Chaulmoogra ethyl ester with iodine.....	52	1.68
Chaulmoogra ethyl ester with creosote.....	37	1.16
Wightiana oil with iodine.....	28	0.88
Wightiana oil.....	7	0.22
Mercado Mixture.....	6	0.19
Wightiana ethyl ester with iodine.....	3	0.09
Chaulmoogra oil with iodine.....	1	0.03
Drug not specified.....	2	0.06
Total.....	186	4.26

From the above table, there are more lepers who contracted tuberculosis that were under chaulmoogra ethyl ester with iodine, chaulmoogra sthyl ester with creosote and wightiana oil with iodine in proportion to other drugs used. This is due to the fact that the majority of the lepers in Culion received these drugs above mentioned. It is to be stated that the number of patients under each drug, to really show the influence on tuberculosis of any one or all of the drugs, if any, was not recorded for lack of time.

Next, we want to show the percentage of mortality from tuberculosis to total deaths occurring in Culion for the last five years from 1921–1925, as compared with that in the provinces and Manila, as follows:

TABLE IV.—*Comparative percentage of mortality from tuberculosis to total deaths*

Year	Percentage to total deaths		
	Provinces	Manila	Cullon
1921.....	12.84	19.31	29.11
1922.....	13.23	20.03	52.11
1923.....	13.79	20.66	54.11
1924.....	12.65	19.83	46.87
1925.....	13.79	21.31	44.53

And has been said above, this comparison merely shows that the mortality from tuberculosis is high in Culion, about four times more than in the provinces and about two times more than in the City of Manila.

An attempt has also been undertaken to find the comparative mortality rates from tuberculosis per 1,000 population in the provinces, Manila and Culion, as follows:

TABLE V.—Comparative mortality rates from tuberculosis per 1,000 population

Year	Rate per 1,000 population		
	Provinces	Manila	Culion
1921.....	2 69	5 09	26 56
1922.....	2 70	4 98	55 63
1923.....	2 78	5 50	56 02
1924.....	2 81	5 56	41 12
1925.....	2 73	5 33	32 47

From the last two comparative tables of mortalities, the mortality rate in the provinces in both is very much lower than either Manila or Culion, and that of Culion is the highest of the three, notwithstanding the fact that the general mortality per 1,000 population in Culion has gradually been decreased for the last two years.

In conclusion, it may be seen that in this preliminary study on leprosy the incidence of tuberculosis among the clinic and dispensary patients in Culion is high. Of the 3,193 clinic patients, 136 patients or 4.26 per cent developed tuberculosis while undergoing anti-leprotic treatment for sometime. Among the 1,354 dispensary patients who had previously received treatment, 333, or 24.59 per cent developed tuberculosis. These dispensary patients were clinic patients but were dropped from the list of clinic patients because of tuberculosis. Lastly, the mortality from tuberculosis is higher in Culion than in the provinces or in Manila.

We are indebted to Dr. Casimiro Lara, Chief Physician of the Culion Leper Colony, who has given us suggestion in the preparation of this paper:

STUDIES ON NEGATIVE LEPERS

II. THE IMPORTANCE OF NASAL LESIONS¹

By H. W. WADE and F. SOLIS

[Abstract]

Various reports have been more or less unfavorable to the old theory of Sticker that the nasal mucosa is an important site for the introduction of the leprosy bacillus and production of the primary lesion, and most leprologists now deny this, though not all are in agreement. However this may be, nasal lesions are common in well advanced cases, and the findings here reported show the importance of examination of this site in examining "negatives."

Of 600 patients sent by the treating physicians to the laboratory for preliminary bacteriological examination, most of them expected to be candidates for the negative list, 152, or 25.4 per cent, were found positive from the nose, and 27, or 4.5 per cent, were positive from this site only.

Of 570 patients, sent by the clinicians to the "Negative Committee," a total of 55, or 9.6 per cent, were found positive from the nose, and 29, or 5.1 per cent, from the nose only.

The two percentages for persistence of nasal lesions, 4.5 and 5.1, are probably significant. Of two other small groups totaling 86, at first positive from both skin and nose, 5 were later positive from the nose only. The general rate in Culsion lepers seems, therefore, to be about 5 per cent.

It is clear that the septum must be paid regular and careful attention in examining negatives, at least when skin smears are no longer positive. The method used must be suitable; it does not suffice to remove only surface material with a swab, at least in the absence of ulceration. The danger of mistaken diagnosis can easily be exaggerated, though the work should not be entrusted to the inexperienced.

¹ To be read at the Annual Meeting of the P. I. M. A., December, 1926.

STUDIES ON NEGATIVE LEPERS

III. THE PROBLEM OF RELAPSES

By H. W. WADE and C. B. LARA

[Abstract]

Relapse in lepers who have become negative as a result of treatment is a problem that, heretofore, has been the concern solely of the treating physicians in the Health Service, and special Committees for Diagnosis. Now, however, new regulations entrust this work to any and all Health Officers. There is also constantly increasing chance that private practitioners may have occasion to detect relapse in discharged lepers.

The records of the examinations made for and by the Cullion Examining Committee show that 15 per cent of the patients put on the negative list had to be taken off at some time. However, in more than one-half of these there was no evidence of clinical reactivation of the disease. The majority are, therefore, considered chance interruptions, due mostly to *discover* of bacilli that, because of their reduced numbers, had been missed in one or more previous examinations.

More than one-half of these interruptions occurred on the first reëxamination after the patient was (tentatively) declared negative, and 84 per cent in the first two such examinations. This indicates the necessity of the three preliminary examinations at short intervals required by official regulations.

The data obtained from the records indicate clearly that the two years negative period is still required under the circumstances, but they also suggest that the present period of six months that is required before a patient may be parolled is not sufficient; it may be better to require nine months.

Consideration of the locations from which the bacilli were found emphasizes the need of careful inspection of practically the entire body surface in examining these patients. The frequent predominance of lesions on the face, coupled with the natural reluctance of patients, especially females, to expose themselves adequately, may well tend to cause neglect of the covered parts of the body. In addition to the face, etc., the back, the buttock, and the nasal septum were particularly frequently positive.

The clinical appearances common in reactivated lesions are discussed, as is the standard procedure that should be followed in the periodical reëxaminations of ex-lepers.

SYNTHESIS OF COMPOUNDS SIMILAR TO CHAULMOOGRIC ACID

II. *dl*-CHAULMOOGRIC ACID

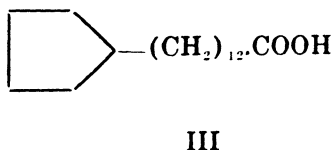
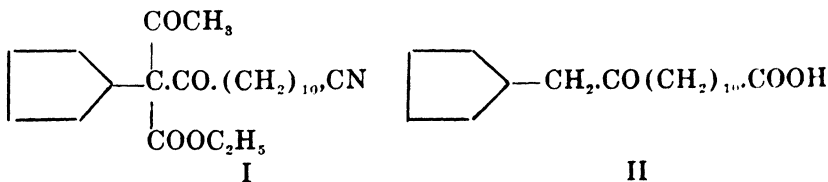
By G. A. PERKINS and A. O. CRUZ

[Abstract]

In studies aiming to produce anti-leprosy drugs superior to those obtainable from chaulmoogra-group oils, various lower homologs of chaulmoogric acid were required. A method of synthesis was developed for the preparation of these.

Acetoacetic ester was condensed with omega-cyanoundecanoyl chloride and then with Delta²-chlorocyclopentene. The resulting diketo ester (I) gave, on hydrolysis, *dl*-lambda-ketochaulmoogric acid (II).

The keto acid, on reduction with hydrazine and sodium ethylate, yielded *dl*-chaulmoogric acid (III).



The synthetic chaulmoogric acid is very similar to the natural dextrorotatory substance, and, judging from melting point determinations, isomorphous with it. The structural identity of the two was confirmed by oxidation of the new product to gamma-keto-*n*-pentadecane-alphaalphanadicarboxylic acid.

MISCELLANEOUS NOTES

ALBAY

Seventy-seven neosalvarsan injections for yaws were given in Catanduanes.

Six hundred seventy-five sanitary orders were issued, and 64 conferences on health matters were held.

Owing to extremely bad weather and almost continuous heavy rains, the Clean-Up Week was postponed for one week, during which time there were only two or three days of clear weather. All that was possible under the circumstance was accomplished.

Thru the efforts of the provincial and local authorities, the municipality of Dao is going to have a waterworks system.

ANTIQUE

The district health officer attended the convention of the "tenientes encargados del barrio" on Sibalom in December 17, 1926. The convention was urged to provide the barrio with sanitary wells. A lecture on hygiene and sanitation was also given.

Clean-Up Week within the municipalities of this province was carried out with enthusiasm.

Cholera vaccination is still going on, although with less intensity than in previous months.

BATANGAS

Thirty-two conferences were given by presidents of sanitary divisions; 16 schools and 2,138 school children were inspected and physically examined; 185 closets of Antipolo system were constructed in 13 municipalities; and 2,056 persons were injected with mixed and 369 persons with pure cholera vaccine.

BULACAN

Important events.—Clean-Up Week was observed in this province, Hagonoy and Paombong were inspected by Doctor Intengan. The municipalities of Bulacan, Bocaue, Polo, and Quingua were inspected and found that the sanitary conditions were satisfactory.

The district health officer came to Manila as a delegate to the National Congress on Tuberculosis. Dr. Cristobal Santiago, president, First Sanitary Division, acted during the absence of the district health officer.

CAPIZ

The Clean-Up Week has only been carried out in few municipalities. There was apparent lack of interest on the part of some provincial and municipal authorities.

The Office of the district health officer has endeavoured to take part in the "Fiestas" of the capital with the sanitary personnel taking part in the parade. Publicity posters and a decorated auto was exhibited. The expenses were entirely personal.

CAVITE

The provincial sanitary inspectors met us in the convention during December.

The preliminary work on mosquito control work by Doctor Manalang, Mr. Mieldazis, and the undersigned in the municipalities of Tanza, General Trias, and Imus was commenced.

During the month, seven new sanitary inspectors were appointed for the newly created positions.

CEBU

The presidents of sanitary divisions were called to the office of the district health officer for conference. The following were the topics discussed: (1) Health fund, (2) Sanitary inspector's work, (3) Leper suspects, (4) P. S. division inspections, (5) Condition of municipal dispensaries, (6) Vaccination campaign among infants under one year of age and distribution of vaccinic virus, (7) District nurses campaign for 1927, (8) Requisitions for medicines, (9) Vacation leave of sanitary inspectors, (10) Correspondence.

Doctor Brennan of the malaria control work stopped in the city on his way to Zamboanga. Survey of the existence of breeding places of anophelis in the different parts of the city was made.

LANAO

The health condition of this district was excellent. The Clean-Up Week was given due attention and the coöperation of both officials and public made the work during the week successful.

During the latter part of the month, heavy rains came, and it is feared that the malaria condition along the coast will be aggravated.

COTABATO

Dysentery was common, according to reports received. Malaria is rampant in every place, specially along the southern coast of the province and around Sarangani Bay.

Vaccination against smallpox was reduced as the personnel was confined to their station for lack of funds. However, places near their stations were vaccinated.

The improvement of the hospital grounds was started, the repair on the hospital having been finished. The new Resident Physician's Quarters was finished and occupied.

One hundred nineteen cases of yaws were treated in the clinic during the month.

ILOCOS NORTE

The success of the Clean-Up Week was already expected as traditional. The people of Ilocos Norte would not permit to be deprived of such an honor. However, the transfer of directorship from the provincial commander to the provincial treasurer has probably been in part responsible for the slow awakening on the part of the people.

MINDORO

Four hundred three antismallpox vaccinations were performed during the month of September and 502 during October. distribution of vaccinic virus, (7) District nurses campaign for 1927,

Malaria control.—One thousand seven hundred sixty-five tablets of quinine were sold by the school teachers during the month of November and 132 cases of malaria reported among school children. Three hundred one cases were reported on October.

MASBATE

A campaign against yaws was conducted in the municipality of San Fernando, Ticao Island. Treatment has been administered by the district health officer with neosalvarsan. A total of 128 persons were treated.

MISAMIS

Lectures were given at the Municipal Presidents' Convention in Mambajao, urging them to increase their contribution to the health fund.

A good quantity of quinine tablets purchased with the provincial general fund were distributed among the non-Christian population of the municipality of Cagayan.

The service personnel took part in the Clean-Up Week.

SURIGAO

The death from beriberi among the provincial prisoners was thoroughly investigated and more recommendations made.

Upon insistent request of the people, the two school dispensaries under this service in the Barrios Anaoan and San Jose were opened to the public during the month.

A baby contest was held in the municipality of Dapa under the auspices of the service.

Miscellaneous.—Dr. Geminiano V. Camposanes, president, Second Sanitary Division, resigned, effective December 31, 1926.

Dr. Jose R. Victoriano, president, First Sanitary Division, attended the National Congress of Tuberculosis held in Manila during the month.

LA UNION

Sanitary dug wells were constructed in every barrio of Naguilian and Bauang and better sanitary closets installed in the municipal districts of Santol, San Gabriel, Bagulin, Pugo, and Burgos.

ZAMBOANGA

The campaign against mosquitoes with Paris green has been discontinued during the month due to the arrival of Unit No. 3 of the section on Malaria Control.

During the month of November, 1,087 vaccinations were performed, of which 782 were inspected with 300 positives. So far, no report of this activity for the month of December has as yet been received.

Anticholera and antityphoid vaccination has been continued during the month in almost the entire district, specially in the municipality of Zamboanga, but, so far, no report has as yet been received. Two thousand two hundred ten vaccinations of this kind were performed during the month of November.

GENERAL STATISTICS

[Unless otherwise stated, these statistics are for the month of December, 1926]

ESTIMATED POPULATION OF THE CITY OF MANILA FOR THE YEAR 1926¹

BY NATIONALITIES

Nationality	Population
Americans.....	3,134
Filipinos.....	290,009
Spaniards.....	1,855
Other Europeans.....	1,136
Chinese.....	17,856
All others.....	2,186
Total.....	316,266

¹ Estimated on the basis of last figures published by the Census Office.

BY DISTRICTS

Districts	Population
No. I, MESEIC:	
1. Tondo.....	79,705
2. San Nicolas.....	28,792
3. Binondo.....	17,898
Total.....	125,895
No. II, SAMPALOC:	
4. Santa Cruz.....	51,565
5. Quiapo.....	15,658
6. San Miguel.....	4,377
7. Sampaloc.....	39,186
Total.....	110,786
No. III, PACO:	
8. Port Area.....	4,754
9. Intramuros.....	14,437
10. Ermita.....	15,931
11. Malate.....	16,259
12. Paco.....	15,830
13. Pandacan.....	5,785
14. Santa Ana.....	6,589
Total.....	79,585
Grand total.....	316,266

**METEOROLOGICAL REPORT FOR MANILA CENTRAL OBSERVATORY DEDUCED
FROM HOURLY OBSERVATION, DECEMBER, 1926**

Date	Pressure mean ¹	Temperature						
		In shade ²					Underground	
		Mean	Absolute maxi- mum	Day	Absolute mini- mum	Day	0.50 m.	
							8 a. m. mean	2 p. m. mean
	mm.	°C.	°C.		°C.		°C.	°C.
1-10.	759.83	25.3	32.5	2	20.3	2	28.2	28.4
11-20.	60.26	25.2	32.4	13	20.3	18	28.0	28.3
21-31.	61.94	23.6	32.8	21	18.0	28	27.3	27.6

Date	Relative humidity				
	Mean	Daily mean maxi- mum	Day	Daily mean mini- mum	Day
	Per cent	Per cent		Per cent	
1-10.....	82.2	94.1	5	74.7	8
11-20.....	80.5	87.7	11	74.2	19
21-31.....	74.0	79.7	27	71.2	24

Date	Prevailing direction	Wind			Atmometer ¹ (open air)		
		Velocity			Total	Daily maxi- mum	Day
		Total	Daily total maxi- mum	Day			
		Kms.	Kms.		mm.	mm.	
1-10.....	NE quad.	1,191.0	166.0	4	24.6	3.5	9
11-20.....	NE	1,246.5	204.0	19	28.2	4.1	18
21-31.....	NE quad.	1,258.0	133.0	21	38.3	4.6	21

Date	Sunshine			Rainfall	
	Total	Daily maxi- mum	Day	Total	Rainy days
	h. m.	h. m.		mm.	
1-10.....	27 10	5 50	7	29.8	3
11-20.....	26 10	7 10	16	7.0	3
21-31.....	41 00	7 05	21	0.0	0

¹ Corrected for instrumental error and for temperature and reduced to sea level. Correction to standard gravity, -1.72 mm.

² These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.

NUMBER OF BIRTHS AND BIRTH RATES PER 1,000 REPORTED IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual birth rates per 1,000
Americans.....	4	7	11	41.35
Filipinos.....	647	632	1,279	51.96
Spaniards.....		3	3	18.08
Other Europeans.....	1	1	2	20.93
Chinese.....	27	31	58	34.27
All others.....	5	4	9	48.51
Total and average.....	684	678	1,362	50.74

NUMBER OF BIRTHS REPORTED IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Legitimates			Illegitimates			Grand total
	Male	Female	Total	Male	Female	Total	
No. I, MMISIC:							
1. Tondo.....	162	144	306	13	9	22	328
2. San Nicolas.....	51	44	95	3	3	6	101
3. Binondo.....	22	31	53	2	2	4	57
Total.....	235	219	454	18	14	32	486
No. II, SAMPALOC:							
4. Santa Cruz.....	16	78	149	3	7	10	159
5. Quiapo.....	25	21	46				46
6. San Miguel.....	13	10	23	3	1	4	27
7. Sampaloc.....	119	119	238	8	12	20	258
Total.....	233	223	456	14	20	34	490
No. III, PACO:							
8. Port Area.....	2	2	4				4
9. Intramuros.....	32	28	60	1	1	2	62
10. Ermita.....	29	38	67	1		1	68
11. Malate.....	70	19	149	1	2	3	152
12. Paco.....	23	29	52	1		1	53
13. Pandacan.....	11	13	24	1		1	25
14. Santa Ana.....	11	10	21	1		1	22
Total.....	178	199	377	6	3	9	386
Grand total.....	646	641	1,287	38	37	75	1,362

Attended by physician, living 389; stillbirths, 30. Attended by midwives, living, 95; stillbirths, 1. Attended by families, living, 878; stillbirths, 14.

NUMBER OF DEATHS AND DEATH RATES PER 1,000 AMONG RESIDENTS IN THE CITY OF MANILA BY NATIONALITIES

[Stillbirths not included]

Nationality	Male	Female	Total	Annual death rates per 1,000
Americans.....	4		4	15.04
Filipinos.....	331	288	614	24.94
Spaniards.....	1		1	6.08
Other Europeans.....				
Chinese.....	21	1	22	14.62
All others.....	4	2	6	32.34
Total and average.....	361	286	647	24.10

NUMBER OF DEATHS AMONG RESIDENTS IN THE CITY OF MANILA BY DISTRICTS

[Stillbirths not included]

Districts	Male	Female	Total
No. I, MEISIC:			
1. Tondo.....	116	96	212
2. San Nicolas.....	27	19	46
3. Binondo.....	11	2	13
Total.....	154	117	271
No. II, SAMPALOC:			
4. Santa Cruz.....	67	47	114
5. Quiapo.....	8	13	21
6. San Miguel.....	6	4	10
7. Sampaloc.....	49	46	95
Total.....	180	110	240
No. III, PACO:			
8. Port Area.....	1		1
9. Intramuros.....	8	5	13
10. Ermita.....	13	6	19
11. Malate.....	26	31	57
12. Paco.....	13	7	20
13. Pandacan.....	8	8	16
14. Santa Ana.....	8	2	10
Total.....	77	59	136
Grand total.....	361	286	647

NUMBER OF DEATHS BY SOCIAL CONDITIONS IN THE CITY OF MANILA, TRANSIENTS INCLUDED

[Stillbirths not included]

Social conditions	Male	Female
Married.....	118	79
Divorced.....		
Widowed.....	32	68
Single.....	272	166
Conditions not stated.....	2	3
Total.....	424	316
Grand total.....	740	

Stillbirths.....	45
Number of deaths with medical attendance.....	480
Number of deaths without medical attendance.....	460

NUMBER OF DEATHS BY AGES IN THE CITY OF MANILA

[Stillbirths not included]

Ages	Residents		Transients		Total
	Male	Female	Male	Female	
Under 1 year	115	71	8	7	201
1 year plus	35	27	3		65
2 years plus	12	6			18
3 years plus	5	7		1	18
4 years plus	2	5	2		9
5 to 9 years	6	9	3	1	19
10 to 14 years	5	2	1	2	10
15 to 19 years	20	15	4	1	40
20 to 24 years	14	9	7	4	34
25 to 29 years	20	17	2	1	40
30 to 34 years	13	9	7	3	32
35 to 39 years	19	20	4	2	45
40 to 44 years	11	9	3		23
45 to 49 years	12	16	4	1	33
50 to 54 years	17	10	3		30
55 to 59 years	9	2	1		12
60 to 64 years	17	7	1	3	28
65 to 69 years	6	4	1		11
70 to 74 years	7	9	3	2	21
75 to 79 years	5	8	3		16
80 to 84 years	3	12	1		16
85 to 89 years	1	3	1		5
90 to 94 years	3	2			5
95 to 99 years	3	1	1	1	6
100 years and over	1	6			7
Age not stated					
Total	361	286	63	29	739

¹ One female Filipino about 35 years, permanent residence unknown, not included in the above table.

45	Cancer and other malignant tumors of the peritoneum, intestines, rectum.....	1	2	1	2
46	Cancer and other malignant tumors of the female genital organs.....	1	1	1	2
49	Cancer and other malignant tumors of other or unspecified organs.....	1	1	1	1
52	Chronic rheumatism, osteoarthritis, gout.....	29	22	1	52
55	Beriberi.....	2	2	4	4
	a. Infants.....	2	2	2	2
	b. Adults.....	1	1	1	1
56	Rickets.....	1	1	1	1
58	Anemia, chlorosis.....				
	a. Pernicious anemia.....				
70-86	III. Diseases of the nervous system and of the organs of special sense.....				
71	Meningitis.....	2	5	1	1
	a. Simple meningitis.....		1		
	b. Nonepidemic cerebrospinal meningitis.....			1	
74	Cerebral hemorrhage, apoplexy.....	5	2		
	a. Cerebral hemorrhage.....				
75	Paralysis without specified cause.....	1	1	1	1
	a. Cerebral hemorrhage.....				
	b. Others under this title.....				
77	Other forms of mental alienation.....	1	1	1	1
78	Epilepsy.....				
79	Infantile convulsions (under 5 years of age).....				
80	Diseases of the ear and of the mastoid process.....		1		
86	b. Diseases of the mastoid process.....				
87-96	IV. Diseases of the circulatory system.....				
88	Endocarditis and myocarditis (acute).....	2	2		4
89	Angina pectoris.....	1	1	1	10
90	Other diseases of the heart.....	7	2		
91	Diseases of the arteries.....	1	1	1	2
	a. Arteriosclerosis.....				
	b. Arterioecrosis.....				
87-107	V. Diseases of the respiratory system.....				
98	Diseases of the larynx.....	1	1		1
99	Bronchitis.....	26	15	1	42
	a. Acute.....	4	4		1
	b. Chronic.....	1	1		1
100	c. Unspecified (under 5 years of age).....			1	53
	Broncho-pneumonia.....	26	26	1	5
	a. Broncho-pneumonia.....	3	2		
	b. Capillary bronchitis.....			1	23
101	Pneumonia.....	11	10	1	1
	a. Lobar.....	1	1		2
102	Pleurisy.....	1	1		
103	Congestion and hemorrhagic infarct of the lung.....				

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG RESIDENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

International numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
108-127	<i>VI. Diseases of the digestive system</i>													
108	Diseases of the mouth and annexa.....				1					1				2
111	Ulcer of the stomach and duodenum:													
	a. Ulcer of the stomach.....													
112	Other diseases of the stomach (cancer excepted).....				1									1
113	Diarrhea and enteritis (under 2 years of age).....			2	1									3
114	Diarrhea and enteritis (2 years and over).....			12	5					1			1	19
116	Diseases due to other intestinal parasites:			4	3									7
	c. Nematodes (other than ancylostoma)													
	f. Parasites not specified.....			2	1									3
117	Appendicitis and typhlitis.....			1						1				1
118	Hernia, intestinal obstruction:			2										2
	b. Intestinal obstruction.....													
122	Cirrhosis of the liver:			1										1
	b. Not specified as alcoholic.....													
124	Other diseases of the liver.....	1		1										2
128-142	<i>VII. Nonvenereal diseases of the genitourinary system and annexa</i>													
128	Acute nephritis (including unspecified under 10 years of age).....			5	6									11
129	Chronic nephritis (including unspecified 10 years and over).....			6	4									12
131	Other diseases of the kidneys and annexa.....			2	1					2				5
143-150	<i>VIII. The puerperal state</i>													
144	Puerperal hemorrhage.....													1
146	Puerperal septicemia.....				2									2
151-154	<i>IX. Diseases of the skin and of the cellular tissue</i>													
151	Gangrene.....			1	1									1
153	Acute abscess.....			1										1

XI. Malformations

159 Congenital malformation (stillbirths not included):
b. Congenital malformations of the heart..... 1 1
c. Others under this title..... 3

XII. Early infancy

160 Congenital debility, icterus, and sclerema..... 18 8
161 Premature birth; injury at birth:
a. Premature birth (not stillborn)..... 8 5
162 Other diseases peculiar to early infancy..... 4 3

XIII. Old age

164 Senility..... 11 25

XIV. External causes

179 Accidental burns (conflagration excepted)..... 2
182 Accidental drowning..... 1
185 Accidental traumatism by fall..... 1
188 Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):
b. Street-car accidents..... 1
197 Homicide by firearms..... 1
202 Other external violence..... 1

Total..... 4 331 283 1 21 1 4 2 647

Grand total..... 4 614 1 22 6 647

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA

[Stillbirths not included]

[illegible]

NUMBER OF DEATHS BY NATIONALITY AND SEX, OCCURRING AMONG TRANSIENTS IN THE CITY OF MANILA—Continued

[Stillbirths not included]

International list numbers (revision of 1920)	Causes of death	Americans		Filipinos		Spaniards		Other Europeans		Chinese		All others		Total
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
164-														
164	XIII. Old age			1	3									4
165-203														
180	Senility													
185	XIV. External causes													
186	Accidental mechanical suffocation													1
187	Accidental traumatism by fall	1			1									1
188	Accidental traumatism by other crushing (vehicles, railways, landslides, etc.):													
197	1. Injuries by other vehicles				1									1
198	Homicide by firearms			1										1
	Homicide by cutting or piercing instruments			2										2
	Total	3		55	29					5				92
	Grand total	3		84						5				92

INFANT MORTALITY

Causes of death	Under 24 hours	24 hours to under 36 hours	36 hours to under 48 hours	48 hours to under 14 days	14 days to under 1 year	Total
9. Whooping cough.....					1	1
13. Mumps.....					1	1
16. Dysentery:						
b. Bacillary.....					2	2
c. Unspecified or due to other causes.....					1	1
21. Erysipelas.....					1	1
29. Tetanus:						
a. Umbilical.....				1		1
31. Tuberculosis of the respiratory system.....					1	1
32. Tuberculosis of the meninges and central nervous system.....					1	1
36. Tuberculosis of other organs:						
a. Tuberculosis of the skin and subcutaneous cellular tissue.....					1	1
41. Purulent infection, septicemia.....					1	1
55. Beriberi.....				12	44	56
56. Rickets.....					3	3
71. Meningitis:						
a. Simple meningitis.....					3	3
80. Infantile convulsions.....					1	1
99. Bronchitis:						
a. Acute.....				1	28	29
b. Chronic.....					2	2
100. Broncho-pneumonia:						
a. Broncho-pneumonia.....					19	19
b. Capillary bronchitis.....					1	1
101. Pneumonia:						
a. Lobar.....					4	4
112. Other diseases of the stomach (cancer excepted).....					1	1
113. Diarrhea and enteritis.....				1	11	12
128. Acute nephritis.....					4	4
131. Other diseases of the kidneys and annexa.....					1	1
153. Acute abscess.....					1	1
159. Congenital malformations (stillbirths not included):						
b. Congenital malformations of the heart.....					2	2
c. Others under this title.....	1			1	1	3
160. Congenital debility, icterus, and scler- ema.....	11	1		5	10	27
161. Premature birth; Injury at birth:						
a. Premature birth (not stillborn).....	5		1	2	5	13
162. Other diseases peculiar to early in- fancy.....	3			4	1	8
Total.....	20	1	1	27	152	201

ANTI-PLAGUE CAMPAIGN IN THE CITY OF MANILA

Number of spring traps set.....	22,139
Number of rats caught by spring traps.....	5,067
Number of cage wire traps set.....	682
Number of rats caught by cage wire traps.....	11
Number and kind of baits (coconuts).....	22,821
Number of poison portions placed.....	13,515
Number of rats found poisoned.....	272
Number of rats killed by clubs and other weapons.....	963
Number of rats found dead from other causes.....	579
Total number of rats otherwise caught, found dead, or killed.....	4,912
Total number of rats sent to the laboratory for examination.....	4,912
Total number of rats found positive for plague.....	0

TYPHOID AND PARATYPHOID FEVER REPORTED DURING THE MONTH OF DECEMBER, 1926, CITY OF MANILA

CONFIRMED CASES

Health districts	Hospital				Home				Total				Grand total	
	Male		Female		Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
II.....	No. 1.....	3	2	3	1	1	.....	.....	4	3	3	1	7	4
	No. 2.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1
	No. 3.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....	2	.....
	No. 4.....	4	1	3	1	.....	.....	.....	4	1	3	1	7	2
II.....	No. 5.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
	No. 6.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
	No. 7.....	3	1	5	1	.....	1	1	3	1	6	2	9	3
	No. 8.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 9.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
	No. 10.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....
II.....	No. 11.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 12.....	1	.....	1	.....	.....	.....	.....	1	.....	1	.....	2	.....
	No. 13.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	No. 14.....	1	1	.....	.....	.....	.....	.....	1	1	.....	.....	1	1
	Grand total.....	17	5	14	3	1	1	1	18	6	15	4	33	19

REMARKS:

Cases confirmed as typhoid fever.....	31
Cases confirmed as paratyphoid fever.....	2
By autopsy.....	.....
By blood culture.....	.....
By widal reaction.....	0
By urine examination.....	0
By feces examination.....	2
By clinical symptoms.....	0
Cases reported among non-resident persons not included in the table.....	29
Deaths reported among non-resident persons not included in the table.....	16
Typhoid carrier—None.....	5

DISYNTERRIES REPORTED DURING THE MONTH OF DECEMBER, 1926, CITY OF MANILA

587

CONFIRMED CASES

Health districts	Hospital						Home				Total				Grand total	
	Male			Female			Male		Female		Male		Female		Cases	Deaths
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths				
I.	No. 1	2	2	4			6	5					8	2	11	9
	No. 2	1	1	1									1	1	2	1
	No. 3															
	No. 4			2	3									3	2	3
II.	No. 5															
	No. 6															
	No. 7	1		1	1				1	1			1	2	3	2
	No. 8															
III.	No. 9															
	No. 10			1	1									1	1	1
	No. 11															
	No. 12	1											1		1	
No. 13																
No. 14				1										1	1	
Total	5	3	10	5	3	6	6	5	3	3	11	8	13	8	24	16

REMARKS:

Amoebic dysentery
Bacillary dysentery
Unspecified

Cases reported among non-resident persons not included in the table
Deaths reported among non-resident persons not included in the table

Dysentery Carrier—None.

0
15
9
10
6

DIPHTHERIA REPORTED DURING THE MONTH OF DECEMBER, 1926, CITY OF MANILA.

CONFIRMED CASES

Health districts	Hospital						Home						Total						Grand total	
	Male			Female			Male			Female			Male			Female			Cases	Deaths
	Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths		Cases	Deaths			
I.....	No. 1.....																			
	No. 2.....																			
	No. 3.....																			
	No. 4.....			1												1			1	
II.....	No. 5.....			1												1			1	
	No. 6.....																			
	No. 7.....			2		2										2		2	2	2
	No. 8.....																			
III.....	No. 9.....	1		2									1			2		3		
	No. 10.....																			
	No. 11.....																			
	No. 12.....																			
	No. 13.....																			
	No. 14.....																			
Grand total	1			6		2							1			6		2	7	2

REMARKS:

Cases reported among nonresident persons not included in the table.....

0

Deaths reported among nonresident persons not included in the table.....

0

Diphtheria carrier—None.

**OTHER COMMUNICABLE AND MOST COMMON DISEASES REPORTED IN THE
CITY OF MANILA DURING THE MONTH OF DECEMBER, 1926**

RESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	11	5	2	
Varicella.....	5	1		
Varioloid.....				
Smallpox.....				
Measles.....	6	8		
Whooping cough.....	1		1	
Influenza.....	11	5	4	
Bubonic plague.....				
Encephalitis lethargica.....	1		1	
Meningitis cerebrospinal epidemic.....	1		1	
Pulmonary tuberculosis.....	169	181	83	88
Tuberculosis of all forms.....	10	5	10	5
Beriberi, infantile.....	30	22	30	22
Beriberi, adult.....	2	2	2	2

NONRESIDENTS

Diseases	Cases		Deaths	
	Male	Female	Male	Female
Malaria.....	31	3	5	
Varicella.....	3			
Varioloid.....				
Smallpox.....				
Measles.....	7	9		
Whooping cough.....				
Influenza.....	2	1		1
Bubonic plague.....				
Encephalitis lethargica.....				
Meningitis cerebrospinal epidemic.....				
Pulmonary tuberculosis.....	16	5	18	8
Tuberculosis of all forms.....		1		1
Beriberi, infantile.....	2	2	2	2
Beriberi, adult.....				

**REPORT OF THE DISTRIBUTION OF ASSORTED SERA AND VACCINES FOR
THE MONTH OF DECEMBER, 1926**

Sera and vaccines	On hand December 1, 1926	Received during the month	Total to be accounted for	Distrib- uted during the month	Remain- ing at the end of the month
Antidiphtheric serum (units).....	620,000		620,000	250,000	370,000
Antidysenteric serum (ampoules).....	143	100	243	40	203
Antitetanic serum (units).....	285,000	22,000	307,000	307,000	
Cholera serum (ampoules).....					
Cholera vaccine (c.c.).....	50	60,000	60,050	60,050	
Dried vaccine virus (units).....	132,900	50,000	182,900	89,200	93,700
Fresh vaccine virus (units).....	254,700	100,000	354,700	157,600	197,100
Gonococcus vaccine (ampoules).....	45		45	45	
Mixed typhoid cholera (c.c.).....	39,560	30,000	69,560	69,560	
Normal Horse serum (ampoules).....					
Typhoid vaccine (c.c.).....	11,100	12,000	23,100	18,360	4,740

REPORT OF ANTI-SMALLPOX VACCINATIONS IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1926

591

Health districts	Municipal districts	Vaccinations			Inspection of persons vaccinated								
		Total vaccinations	Previously vaccinated		Under 1 year		1 to 4 years		5 years and over		Total		
			Never	Successfully	Unsuccessfully	Positive	Negative	Positive	Negative	Positive		Negative	
No. 1.....	Tondo.....	532	474	1	57	391	14	48	1	3	6	442	21
	San Nicolas.....	59	53	6	6	44	5	2	1	1	1	46	6
	Binondo.....	370	72	289	9	38	7	3	1	1	1	41	9
	Santa Cruz.....	897	243	628	26	180	8	4	2	114	279	298	283
	Quilapo.....	39	35	4	4	27	3	3	2	2	2	27	3
No. 2.....	San Miguel.....	30	28	2	2	23	2	2	6	8	12	23	2
	Sampaloc.....	867	350	423	94	176	6	101	6	8	12	285	24
	Port Area.....												
	Intramuros.....	54	48	6	6	48	5					48	5
	Erminta.....	113	100	2	11	105	6	8				113	6
No. 3.....	Malate.....	82	56	2	24	58	11	10	4			68	15
	Paco.....	108	88	10	10	90	9	1				91	9
	Pandacan.....	43	34		9	45	8	1				46	8
	Santa Ana.....	42	38		4	44	4					44	4
	Total.....	3,236	1,619	1,355	262	1,269	88	178	14	125	299	1,572	401

Vaccine Virus:
Received.....
Used.....
Remained.....

14,150
11,450
4,250

ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1926

Health districts	Municipal districts	Number of injections made in—										Total number of injections																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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No. 1.....	Tondo..... San Nicolas..... Binondo..... Santa Cruz..... Quapo..... San Miguel..... Sampaloc..... Port Area..... Intramuros..... Ermita..... Malate..... Paco..... Pandacan..... Santa Ana.....																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

ANTI-TYPHOID AND ANTI-CHOLERA VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER, 1926¹

593

Health districts	Municipal districts	Number of injections made in—												Total number of injections					
		Adults						Children						Total number of injections					
		First injections		Second injections		Third injections		First injections		Second injections		Third injections		First		Second		Third	
		V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.	V.	R.
No. 1.	Tondo.	1,123	673		915	6	441	3	261	1	405	6	1,564	3	934	1	1,320		
	San Nicolas.	814	652		567		275		199		188		1,089		851		755		
	Binondo.	1,585	1,350		756		214		316		716		1,799		1,666		1,472		
	Santa Cruz.	1,203	1,109		1,185		641		543		465		1,844		1,652		1,650		
	Quiapo.	16	154		261		1		1		6		17		155		267		
No. 2.	San Miguel.		5		8				4		8		1		9		16		
	Sampaloc.	734	840		914	15	475	15	425	6	416	15	1,209	15	1,265	6	1,330		
	Port Area.				133												133		
	Intramuros.	763	469		374		10		7		5		773		476		379		
	Ermita.	68	143		91		71				7		139		143		98		
No. 3.	Malate.	622	598		650		11	438	21	407	22	317	11	1,060	21	1,005	22	967	
	Paco.	407	424		441		6	513	10	362	14	312	6	920	10	786	14	753	
	Pandacan.																		
	Santa Ana.	132	92				582		52				714		144				
	Total.	7,467	6,509		6,295	38	3,662	49	2,577	43	2,845	38	11,129	49	9,086	43	9,140		

¹ Mixed typhoid and cholera vaccine used for the first and second injections.
Typhoid and paratyphoid vaccine used for the third injections.
V. in persons never vaccinated before; R. revaccinations.

ANTI-DYSENTERY VACCINATIONS PERFORMED IN THE CITY OF MANILA DURING THE MONTH OF DECEMBER 1926

594

Health districts	Municipal districts	Number of injections made in—				Total number of injections	
		Adults		Children		First	Second
		First injections	Second injections	First injections	Second injections		
No. 1.....	Tondo.....	39	22	19	27	58	49
	San Nicolas.....	18	4	11	2	29	6
	Binondo.....	176	175	211	207	387	382
	Santa Cruz.....						
	Quiapo.....						
No. 2.....	San Miguel.....	6	1	3		9	1
	Sampaloc.....						
	Port Area.....						
	Intramuros.....						
	Ermita.....	1					
No. 3.....	Malate.....						
	Paco.....						
	Pandacan.....						
	Santa Ana.....						
	Total.....	240	202	244	236	484	438

**CONSOLIDATED REPORTS OF ANTI-SMALLPOX VACCINATIONS RECEIVED
FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	Total vaccina- tions	Vaccinations		
		Previously vaccinated		
		Never	Success- fully	Unsuccess- fully
Abra	35,944	4,839	19,459	11,646
Agusan	11,538	2,457	4,993	4,088
Albay	47,059	13,682	6,001	27,376
Antique	106,548	17,080	59,479	29,989
Bataan	11,771	4,338	3,765	3,668
Batanes	4,355	634	1,081	2,640
Batangas	55,765	12,930	18,236	24,599
Bohol	48,070	11,635	15,806	20,629
Bukidnon	4,015	1,056	1,211	1,748
Bulacan	54,594	10,418	34,203	9,973
Cagayan	34,947	7,617	13,364	13,966
Camarines Norte	58,990	8,247	38,076	12,667
Camarines Sur	83,852	11,933	60,507	21,412
Capiz	87,269	22,825	47,976	16,468
Catanduanes	13,809	2,486	3,146	8,177
Cavite	31,767	6,031	15,970	9,766
Cebu	121,495	36,678	27,555	57,262
Cotabato	23,260	7,460	7,332	8,468
Ilocos Norte	36,518	7,579	12,366	16,573
Ilocos Sur	41,875	8,734	7,905	25,236
Iloilo	113,467	35,806	51,562	26,099
Isabela	113,886	28,090	70,959	14,837
Laguna	38,376	8,983	17,788	11,605
Lanao	6,401	1,509	3,398	1,494
La Union	31,326	5,849	1,353	24,124
Leyte	51,139	19,476	4,586	27,077
Marinduque	13,052	2,221	4,477	6,354
Masbate	12,478	3,754	2,779	5,945
Mindoro	59,879	13,338	35,396	11,145
Misamis	111,016	18,938	57,360	34,718
Mountain Province	40,914	9,742	21,588	9,584
Nueva Ecija	46,661	13,473	11,270	21,918
Nueva Vizcaya	13,164	1,382	7,856	3,926
Occidental Negros	41,568	22,811	7,180	11,577
Oriental Negros	37,071	9,882	12,886	14,303
Palawan	4,458	2,408	1,642	408
Pampanga	48,697	8,157	22,225	18,315
Pangasinan	77,648	19,115	18,637	39,896
Rizal	116,089	20,167	82,938	12,984
Romblon	30,220	6,338	17,360	6,522
Samar	165,723	32,025	91,935	41,763
Sorsogon	28,954	12,124	277	16,553
Sulu	12,326	6,307	2,787	3,232
Surigao	42,408	12,503	16,284	13,621
Tarlac	31,708	5,996	19,417	6,295
Tayabas	26,107	13,913	9,993	2,201
Zambales	11,035	2,382	2,976	5,667
Zamboanga	12,956	2,833	4,792	5,331
Total	2,273,569	543,117	1,001,103	729,349

¹ Incomplete; reports from other provinces not yet received. Vaccinations performed by Vaccinating Parties are included in the above table.

**CONSOLIDATED REPORT OF ANTI-SMALLPOX VACCINATIONS RECEIVED FROM
THE PROVINCES SINCE JANUARY, 1926**—Continued

Provinces	Inspection of persons vaccinated							
	Under 1 year		1 to 4 years		5 years and over		Total	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Abra.....	980	493	5,213	1,826	13,267	7,746	19,460	10,065
Agusan.....	375	181	743	314	2,068	2,432	3,186	2,927
Albay.....	5,082	1,397	5,273	1,463	6,235	3,339	16,590	6,199
Antique.....	3,610	868	9,600	5,403	23,897	32,100	87,107	38,371
Bataan.....	2,099	421	3,439	1,285	2,406	1,252	7,944	2,958
Batanes.....	405	163	857	366	1,516	690	2,778	1,219
Batangas.....	5,244	817	10,355	3,271	12,724	10,630	28,323	14,618
Bohol.....	6,004	1,864	7,403	3,469	13,264	11,144	26,671	16,464
Bukidnon.....	81	42	175	173	1,168	913	1,424	1,128
Bulacan.....	5,837	889	6,756	2,857	18,497	13,600	31,090	17,346
Cagayan.....	2,867	685	5,657	1,668	12,209	9,120	20,733	11,473
Camarines Norte.....	2,009	309	5,629	1,190	22,368	11,039	30,006	12,538
Camarines Sur.....	4,608	1,262	9,245	2,496	30,417	13,695	44,270	17,453
Capiz.....	4,282	989	8,958	2,386	34,830	16,152	48,070	19,527
Catanduanes.....	1,321	617	1,545	821	2,289	1,407	5,155	2,845
Cavite.....	5,190	560	4,068	1,042	13,781	6,925	23,039	8,527
Cebu.....	10,258	4,078	11,319	4,233	16,769	14,920	38,346	23,281
Cotabato.....	351	232	1,282	876	4,798	3,764	6,431	4,872
Davao.....	440	184	1,433	868	5,217	5,689	7,090	6,641
Ilocos Norte.....	3,575	893	6,758	2,178	9,163	9,785	19,496	12,856
Ilocos Sur.....	6,356	1,549	7,135	2,815	7,889	8,581	21,380	12,945
Iloilo.....	7,084	799	15,600	3,265	33,497	19,969	56,131	24,038
Isabela.....	2,485	786	9,887	2,986	29,320	22,668	41,642	26,440
Laguna.....	4,402	1,057	4,189	2,263	9,762	13,211	18,353	16,531
Lanao.....	109	17	218	63	754	510	1,081	590
La Union.....	3,024	957	3,939	3,155	4,055	6,533	11,018	10,645
Leyte.....	2,926	1,073	6,428	2,303	9,278	3,583	18,632	6,959
Marinduque.....	753	226	1,657	614	4,240	2,516	6,550	3,856
Masbate.....	863	294	1,532	820	3,318	2,506	5,713	3,620
Mindoro.....	1,496	260	5,529	887	23,177	10,326	30,202	11,473
Misamis.....	2,211	677	9,512	2,579	38,450	18,065	50,173	21,321
Mountain Province.....	952	595	3,506	1,652	7,340	7,110	11,798	9,857
Nueva Ecija.....	5,859	1,260	9,377	3,005	11,711	9,352	26,947	13,617
Nueva Vizcaya.....	576	88	1,507	674	5,385	5,757	7,468	6,519
Occidental Negros.....	7,138	1,541	8,980	2,438	8,698	3,459	24,816	7,438
Oriental Negros.....	8,507	1,290	5,262	2,450	10,173	5,899	18,942	9,639
Palawan.....	151	35	262	76	1,090	692	1,503	803
Pampanga.....	3,196	719	4,094	1,521	10,966	9,283	18,256	11,523
Pangasinan.....	10,413	2,807	15,270	5,230	21,110	19,776	46,793	27,818
Rizal.....	6,743	1,356	10,532	4,238	21,489	31,642	38,764	37,236
Romblon.....	1,160	215	3,123	696	9,029	5,482	13,312	6,393
Samar.....	5,770	1,814	19,989	5,571	59,249	24,648	85,008	32,033
Sorsogon.....	2,396	1,054	5,259	2,266	5,661	2,814	13,316	6,134
Sulu.....	512	145	2,133	619	4,857	1,903	7,002	2,667
Surigao.....	1,026	526	3,124	2,223	9,052	11,052	13,202	13,801
Tarlac.....	2,918	1,016	4,481	2,052	6,763	10,048	14,157	13,116
Tayabas.....	4,189	1,043	6,927	1,854	13,174	7,105	24,290	10,002
Zambales.....	1,170	280	1,712	1,041	2,654	3,859	5,536	5,180
Zamboanga.....	643	435	895	806	2,419	3,302	3,957	4,543
Total.....	154,541	40,855	277,667	98,337	620,943	447,793	1,053,151	586,985

¹ Incomplete; reports from other provinces not yet received.

NOTE.—Vaccinations performed by the Vaccinating Parties are included in the above table.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTI-CHOLERA VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....				
Albay.....	31,236	3,737		34,973
Antique.....	20,282	6,574		26,856
Bataan.....	30,967	1,623		32,590
Batanes.....				
Batangas.....	177,107	11,731		188,838
Bohol.....				
Bukidnon.....	230	222		452
Bulacan.....	161,823	20,632		182,455
Cagayan.....				
Camarines Norte.....	576	268		844
Camarines Sur.....	41,484			41,484
Capiz.....	91,946			91,946
Catanduanes.....	6,459	3,059		9,518
Cavite.....	25,074			25,074
Cebu.....	3,519	87		3,606
Cotabato.....				
Davao.....	915	530		1,445
Ilocos Norte.....	8,303			8,303
Ilocos Sur.....				
Iloilo.....	91,569	13,694		105,263
Isabela.....	83	83		166
Laguna.....	104,497	20,616	1,164	126,277
Lanao.....				
La Union.....	4,608	2,030		6,638
Leyte.....	45,637	22,308		67,945
Marinduque.....	49,155	44,864	5,087	99,106
Masbate.....	3,305	1,136		4,441
Mindoro.....	27,315	9,870	2,005	39,190
Misamis.....				
Mountain Province.....				
Nueva Ecija.....	35,092	1,052		36,144
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....	40	43		83
Palawan.....				
Pampanga.....	181,547	8,577		190,124
Pangasinan.....	278,942	56,817		335,759
Rizal.....	185,133	14,002		199,135
Romblon.....	11,150	5,853		17,003
Samar.....	4,927	1,519		6,446
Sorsogon.....	9,361	164		9,525
Sulu.....	1	1		2
Surigao.....				
Tarlac.....	21,052	16,312		37,364
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	1,653,335	267,404	8,256	1,928,995

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH ANTITYPHOID VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926 ¹**

Provinces	First injections	Second injections	Third injections	Total
Abra.....				
Agusan.....	536			536
Albay.....	352	169	100	621
Antique.....				
Bataan.....				
Batanes.....				
Batangas.....	398	283	10	691
Bohol.....				
Bukidnon.....				
Bulacan.....	802	375	269	1,446
Cagayan.....				
Camarines Norte.....				
Camarines Sur.....				
Capiz.....	758	931		1,689
Catanduanes.....	994	339	10	1,343
Cavite.....				
Cebu.....				
Cotabato.....				
Davao.....				
Ilocos Norte.....				
Ilocos Sur.....				
Iloilo.....	25			25
Isabela.....				
Laguna.....	1,651	740	301	2,692
Lanao.....				
La Union.....	1,437	360	248	2,045
Leyte.....				
Marinduque.....				
Masbate.....	664	166		830
Mindoro.....				
Misamis.....				
Mountain Province.....	82	36		118
Nueva Ecija.....				
Nueva Vizcaya.....				
Occidental Negros.....				
Oriental Negros.....				
Palawan.....				
Pampanga.....	2,820	1,106	273	4,199
Pangasinan.....	1,846	1,111	536	3,493
Rizal.....				
Romblon.....				
Samar.....				
Sorsogon.....	898			898
Sulu.....				
Surigao.....				
Tarlac.....				
Tayabas.....				
Zambales.....				
Zamboanga.....				
Total.....	13,263	5,616	1,747	20,626

¹ Incomplete; reports from other provinces not yet received.

**CONSOLIDATED REPORT OF VACCINATIONS WITH MIXED (TYPHOID AND VACCINE
RECEIVED FROM THE PROVINCES SINCE JANUARY, 1926**

Provinces	First injections	Second injections	Third injections	Total
Abra	4,502	4,564		9,066
Agusan	9,082	2,494		11,576
Albay	27	33		60
Antique	9,249	2,289		11,538
Bataan	266	173		439
Batanes	180	168		348
Batangas	1,030	120		1,150
Bohol	5,942	2,367		8,309
Bukidnon				
Bulacan	3,410	832		4,242
Cagayan	5,383	2,498		7,881
Camarines Norte	4,560	3,494		8,052
Camarines Sur	5,988	2,992		8,980
Capiz	14,549	5,670		20,219
Catanduanes				
Cavite	17,990	4,835		22,825
Cebu	58,709	10,723		69,432
Cotabato	842	166		1,008
Davao	2,956	1,196		4,152
Ilocos Norte	32,715	8,014	1,150	41,879
Ilocos Sur	3,140	2,440		5,580
Iloilo	18,257	4,634		22,891
Isabela	362	292		654
Laguna	3	1		4
Lanao	5,970	1,133		7,103
La Union	3,523	2,441		5,964
Leyte	14,686	6,815		21,501
Marinduque	528	102		630
Masbate	2,403	212		2,615
Mindoro				
Misamis	4,852	893		5,745
Mountain Province	1,717	93		1,810
Nueva Ecija	1,094	527		1,621
Nueva Vizcaya	5,246	2,787		8,033
Occidental Negros	70,652	55,921		126,573
Oriental Negros	5,122	3,169		8,291
Palawan	92	51		143
Pampanga	8,114	3,008		11,122
Pangasinan	389	544		933
Rizal	15,954	3,015	251	19,220
Romblon	11	9		20
Samar	2,533	1,834		4,367
Sorsogon	1,707	201		1,908
Sulu				
Surigao	1,299	749		2,048
Tarlac	32,471	18,872		51,343
Tayabas	53,912	22,586		76,498
Zambales	10,550	9,816		20,366
Zamboanga	5,903	1,369		7,272
Total	447,870	196,140	1,401	645,411

¹ Incomplete; reports from other provinces not yet received.

**SMALLPOX REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF DECEMBER, 1926**

Province and town	Case	Death
CEBU:		
Cebu	1	1
Total	1	1

**CHOLERA REPORTS FROM THE PROVINCES RECEIVED DURING THE MONTH
OF DECEMBER, 1926**

(No case and no death reported during the month)

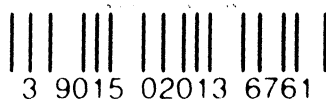
**REPORT OF THE DIVISION OF SANITARY ENGINEERING, CITY OF MANILA,
DURING THE MONTH OF DECEMBER, 1926**

	Health districts			Total
	No. 1 Meisic	No. 2 Sampa- loc	No. 3 Paco	
Orders pending, December 1, 1926:				
Minor	154	274	110	538
Sewer	26	49	1	76
Vacating	8	11		19
Filling	10	35	19	64
Total	198	369	130	697
Orders issued during the month:				
Minor	12	12	7	31
Sewer	1			1
Vacating				
Filling				
Total	13	12	7	32
Orders completed during the month:				
Minor	20	29	41	90
Sewer	2	2		4
Vacating				
Filling				
Total	22	31	41	94
Orders cancelled during the month:				
Minor		1	2	3
Sewer				
Vacating				
Filling				
Total		1	2	3
Orders pending, December 31, 1926:				
Minor	146	256	74	476
Sewer	25	47	1	73
Vacating	8	11		19
Filling	10	35	19	64
Total	189	349	94	632
Strong material plans approved:				
New buildings including additions and alterations	29	40	27	96
Permits for minor building constructions:				
Approved	31	28	15	74
Disapproved	9	8	1	13
New buildings completed	15	37	27	79
Permits for light and mixed material constructions:				
Approved	9	21	14	44
Disapproved	2	6	3	11
Prosecutions:				
Convictions	1			1
Dismissals	1	1	26	28
Amount of fines	P10			P10
Plumbing permits issued	23	73	49	145
Plumbing projects completed	30	63	30	123
Premises connected to the sanitary sewer to November 30, 1926 ..	2,495	4,259	645	7,399
Connected during the month	3	9	9	21
Total	2,498	4,268	654	7,420

Meisic includes Tondo, San Nicolas, and Binondo.

Sampaloc includes Santa Cruz, Quiapo, and San Miguel.

Paco includes Port Area, Intramuros, Ermita, Malate, Pandacan, and Santa Ana.



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